

JUNE 9, 1945

Railway Age

Founded 1856

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They did not falter..



LET US NOT FAIL!

- buy that extra bond now!

WINE

THE 7 TH WAR LOAN

• TOLEDO, OHIO

Let's replace this picture



with one like this

How much more effectively, more powerfully
can we speed heart-warming homecomings
if all of us back to the limit
the mighty 7th War Loan, two drives in one,
— if we railroad men give the highball
to all-out bond selling among our employees
— to all-out bond buying by ourselves.



ASSOCIATION OF MANUFACTURERS OF CHILLED CAR WHEELS

230 PARK AVENUE, NEW YORK 17, N. Y. • 445 NORTH SACRAMENTO BOULEVARD, CHICAGO 12, ILL.

Organized To Achieve: Uniform Specifications — Uniform Inspection — Uniform Product

4103

Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933.
at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price \$6.00 for one year U. S. and Canada. Single copies, 25
cents each. Vol. 118, No. 23.



Freight cars built of Mayari R*, Bethlehem's high-strength, low-alloy steel, have done yeoman service in helping American railroads meet the tremendous haulage demands of the war.

Mayari R, with its yield point of 50,000 p.s.i.—nearly twice that of mild carbon steel—makes possible lighter construction. Result: More pay load per car, and more cars per train.

And because it has five to six times the corrosion resistance of mild carbon steel and two to four times that of copper-bearing steel, Mayari R stands up better to corrosive conditions, thus provides longer life and lower upkeep costs for railroad equipment. Exposure tests indicate another advantage of Mayari R: red-lead paint on Mayari R can be expected to last 100 per cent longer than on regular structural steel.

In addition Mayari R, being highly

ductile, is readily fabricated and welded under regular shop practices. It does not require heat-treatment after welding—a big advantage when welding large sections, or repairing used equipment.

If you would like to have handy all the facts about uses and properties of this remarkable weight-saving steel, write to the nearest district office or to Bethlehem Steel Company, Bethlehem, Pa., for illustrated booklet which gives complete information on Mayari R.

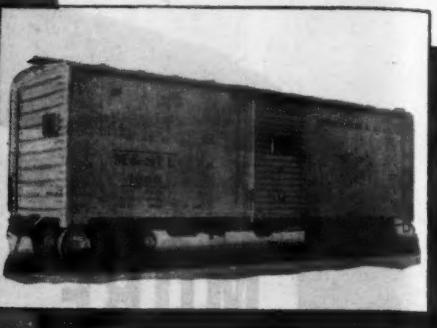
* "Mayari" rhymes with "fiery." Mayari R is named for the district of Cuba where the mines are located that yielded the original Mayari natural-alloy ores. The "R" denotes "Rust Resisting."



Mayari R makes it lighter... stronger... longer lasting

MODERN MOTIVE POWER FOR A MODERN RAILWAY TO FREIGHT PROGRESS in 1945

THE MINNEAPOLIS & ST. LOUIS RAILWAY
is contributing newest units of Modern
Motive Power, TWO DIESEL LOCOMOTIVES
of 4,050 horsepower each



Designed and built for Fast Freight
Service on the M. & St. L. main line, these
powerful new engines are already at work, speeding
Wartime Traffic in the Great Midwest and through
the time-saving PEORIA GATEWAY



Locomotive No. 545 and its twin, No. 445, are 140 feet long, weigh 690,000 pounds each and carry 3,600 gallons of fuel oil. Each engine consists of three units or power cars, all controlled by the engineer from his place in the cab, high in the streamlined nose at either end. Geared to top speed of 65 miles an hour, the new M. & St. L. Diesels were built to move heavier trains over greater distances in faster time than another type of locomotive of equal horsepower.

General Offices • Northwestern Bank

FREIGHT PROGRESS

Headlines the Program of

THE MINNEAPOLIS & ST. LOUIS RAILWAY

For 1945 and the Years Ahead

FAST FREIGHT SERVICE • Fine today and even finer in the coming Years of Peace, is the pledge of the M. & St. L.

- To Traffic Managers
- To Freight Shippers
- To Agriculture and Industry
- To Connecting Railroads

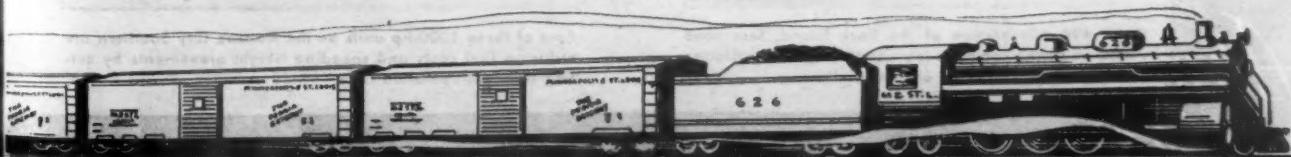


To insure fulfillment of this pledge, the M. & St. L. is completing a ten-year improvement program, approximating \$25,000,000. Modern equipment added by the M. & St. L. in 1944 included 500 new steel box cars; 150 flat cars and four 1,000 horsepower Diesel combination road and switching locomotives.

Already delivered in 1945 are the two big Diesel

road locomotives; two more of the 1,000 horsepower Diesels and the first of ten lightweight aluminum box cars, symbol of M. & St. L. progress in modernization of equipment.

Also being built this year are 500 more standard steel box cars; three more of the 1,000 horsepower Diesels; and six stainless steel passenger coaches, streamlined and air conditioned.



Building • Minneapolis 2, Minnesota

ASSIGNABILITY UNLIMITED!

You can profitably utilize all of the Alco-G.E. road switcher's 95% average availability—it has the versatility to handle all three railroad jobs: road work, transfer service, and switching.

● There's almost no limit to the earning capacity of our 1000-hp road and switching locomotive. To the inherent high availability of diesel-electrics, Alco-G.E. has given to this unit an all-round versatility that enables you to keep it busy around the clock, capturing the profit that results from steady employment.

On one road, the all-purpose usefulness of four of these combination units was responsible for the release of seven steam locomotives and the speeding up of freight schedules—despite heavily increased traffic. On another road, where three of these units are assigned to switching work between road trips, annual gross savings amount to more than \$90,000—a 33 per-cent return on the investment.

For switching, you'll find that it is equipped to give full power at all speeds, that it has almost unlimited visibility, and the built-in reliability that's characteristic of all Alco-G.E. diesel-electrics. It meets road requirements because it has the additional features of space for train-heating facilities, speed up to 60 mph, and the riding qualities of spring-supported, swing-bolster trucks having ample distance between centers for flexibility.

Because you can assign this diesel-electric to switching during the night and meeting road schedules during the day, you can realize a higher net return on your investment than you can from a single-purpose locomotive. Moreover, it has the greatest opportunity to effect the savings you'll need to meet the severe competition for postwar traffic.

Whether your plans to meet this competition call for diesel-electric, electric, or steam locomotives, we invite you to call in our engineers to work with your own on a motive-power survey. Their recommendations will be impartial—we build all three types of motive power.

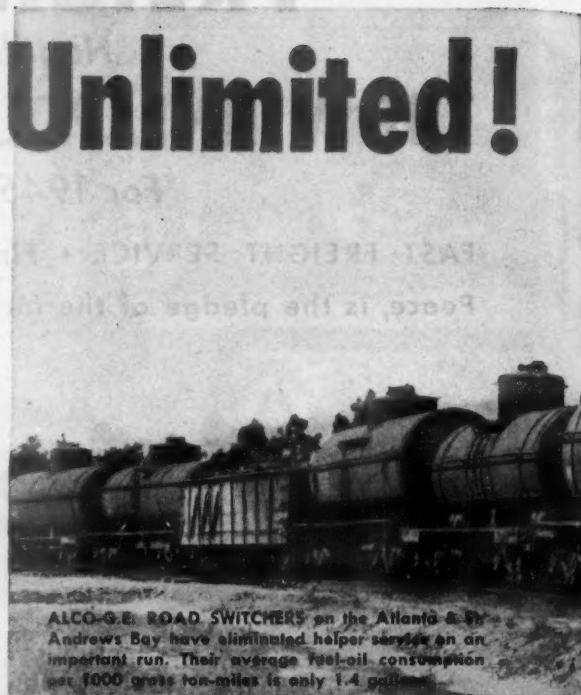


On a 498-mile section of the Rock Island, four road switchers do the complete job—switching, accumulating trains, and hauling them on the road.

Alco



AMERICAN LOCOMOTIVE and



ALCO-G.E. ROAD SWITCHERS on the Atlanta & St. Andrews Bay have eliminated helper service on an important run. Their average fuel-oil consumption per 1000 gross ton-miles is only 1.4 gallons.



IN A MIDWESTERN YARD, each of two 1000-hp Alco-G.E. units handled as many cars in 24 hours as released motive power handled in 28 hours.



Four of these 1000-hp units on the Kansas City Southern are reducing fuel costs and speeding freight movements by cutting terminal-operation time.



HOW ONE ROAD UTILIZES THE VERSATILITY OF ALCO-G.E. ROAD SWITCHERS

6:30 P.M. to 4 A.M.—both locomotives, in tandem, haul 3200-ton trains over the one per-cent ruling grade of a 182-mile daily round-trip run.

● On a southern line where two 1000-hp Alco-G.E. road switchers are doing double duty—road work and switching—there has been no need for additional motive power despite a 100 per-cent increase in traffic since they were placed in service. Their versatility enables this road to keep them busy at least 18 hours a day producing monthly savings of \$3787 in road service and \$3776 in switching.

4 A.M. to 3 P.M.—one of the locomotives handles local switching, and transfer work between the road's terminals and a connecting railroad.

7 A.M. to 5 P.M.—In addition to switching work at one of the yards, the other locomotive speeds passenger trains to a local resort during the summer.



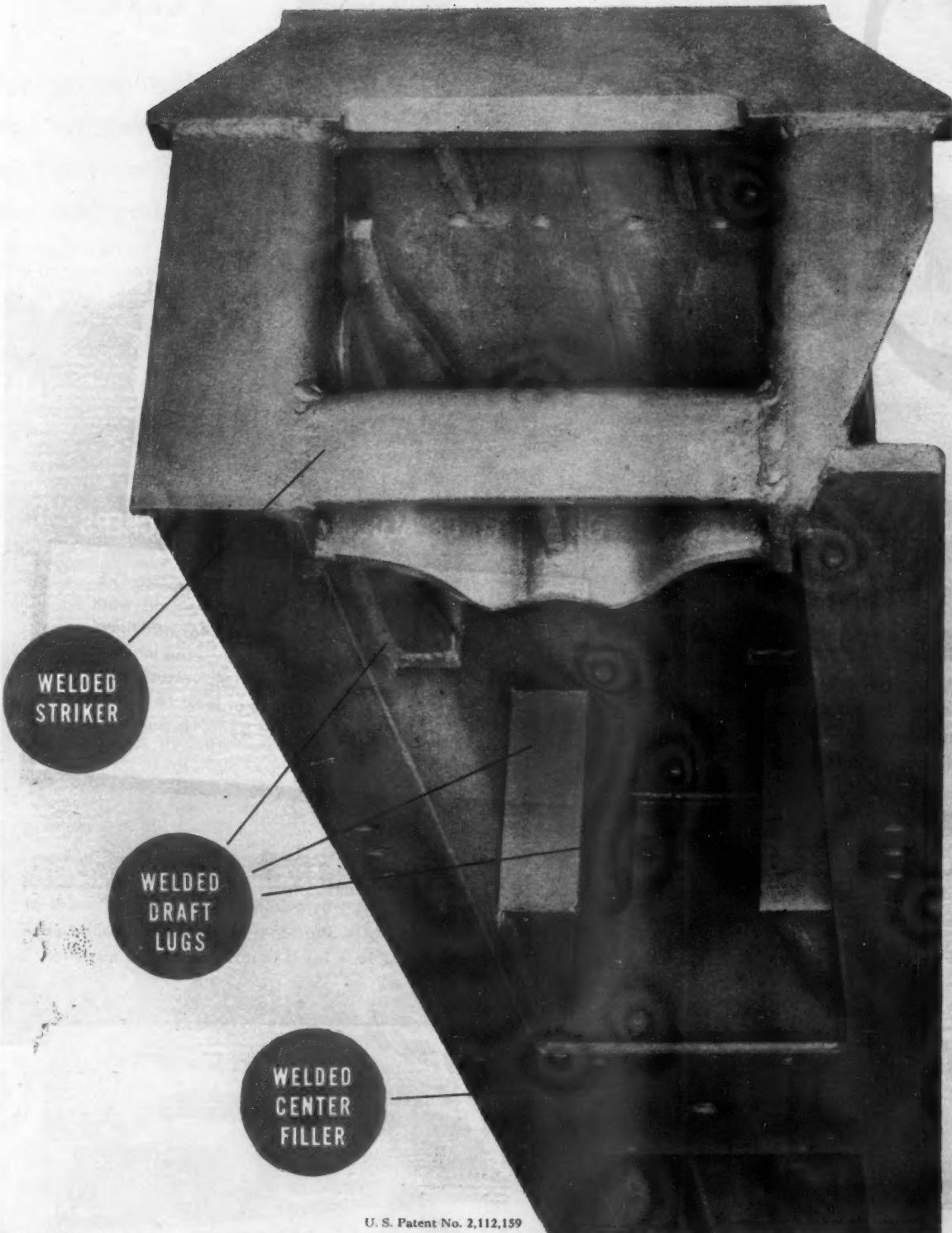
At nearly passenger-train speeds, two of these Alaska Railroad units are hauling combined freight and passenger trains where two separate trains were formerly required.



On the Susquehanna, four of these versatile units are making substantial reductions in operating cost. Their daily inspection and refueling takes 20 minutes.

GENERAL ELECTRIC

113-124-8580



U. S. Patent No. 2,112,159

Pullman-

CHICAGO • NEW YORK

THIS WELDED DRAFT SILL ASSEMBLY *stays tight*

Pullman-Standard welded bolster center fillers, draft lugs and strikers are permanently tight. Damage to car structures and trucks often resulting from loose rivets is definitely prevented. Draft gears are held firmly in place.

Experience with cars now in service, some built more than thirteen years ago, confirms Purdue University's findings that the strength of this welded construction is superior to that of conventional riveted construction. Proven also is the excellent quality of engineered welding by Pullman-Standard.

More than 47,000 freight cars are now equipped with Pullman-Standard welded draft sills.

RAILROADS SEEKING THE BEST HAVE SPECIFIED THIS CONSTRUCTION

REPEATEDLY. THE RECORD RECOMMENDS IT FOR YOUR CONSIDERATION.

Standard CAR MANUFACTURING COMPANY

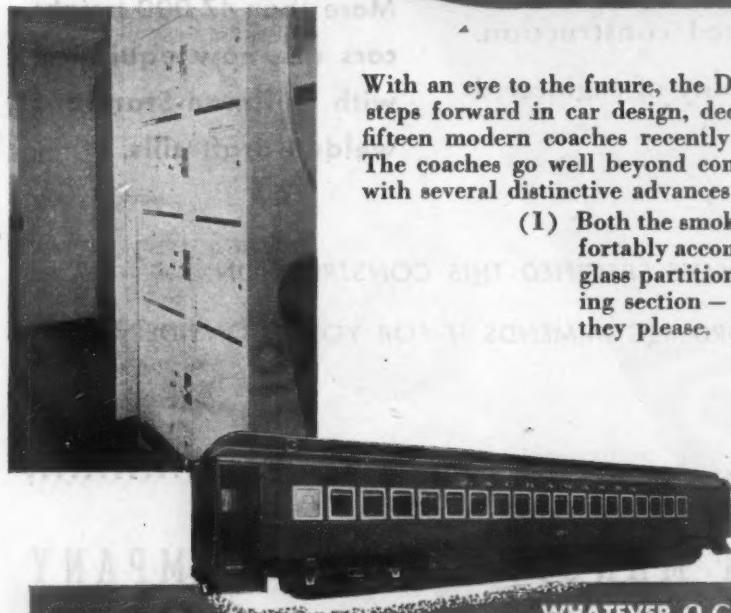
CLEVELAND • WASHINGTON, D. C. • PITTSBURGH • BALTIMORE • BIRMINGHAM • WORCESTER, MASS.

San Francisco Sales Representative, Mark Noble

Streamlining

FOR MORE PROFITS on the Route of Phoebe Snow!

15 D. L. & W. Coaches, Re-Designed by Q.C.F.
Carry Convincing Cash Register Appeal—
with Many Interesting Innovations



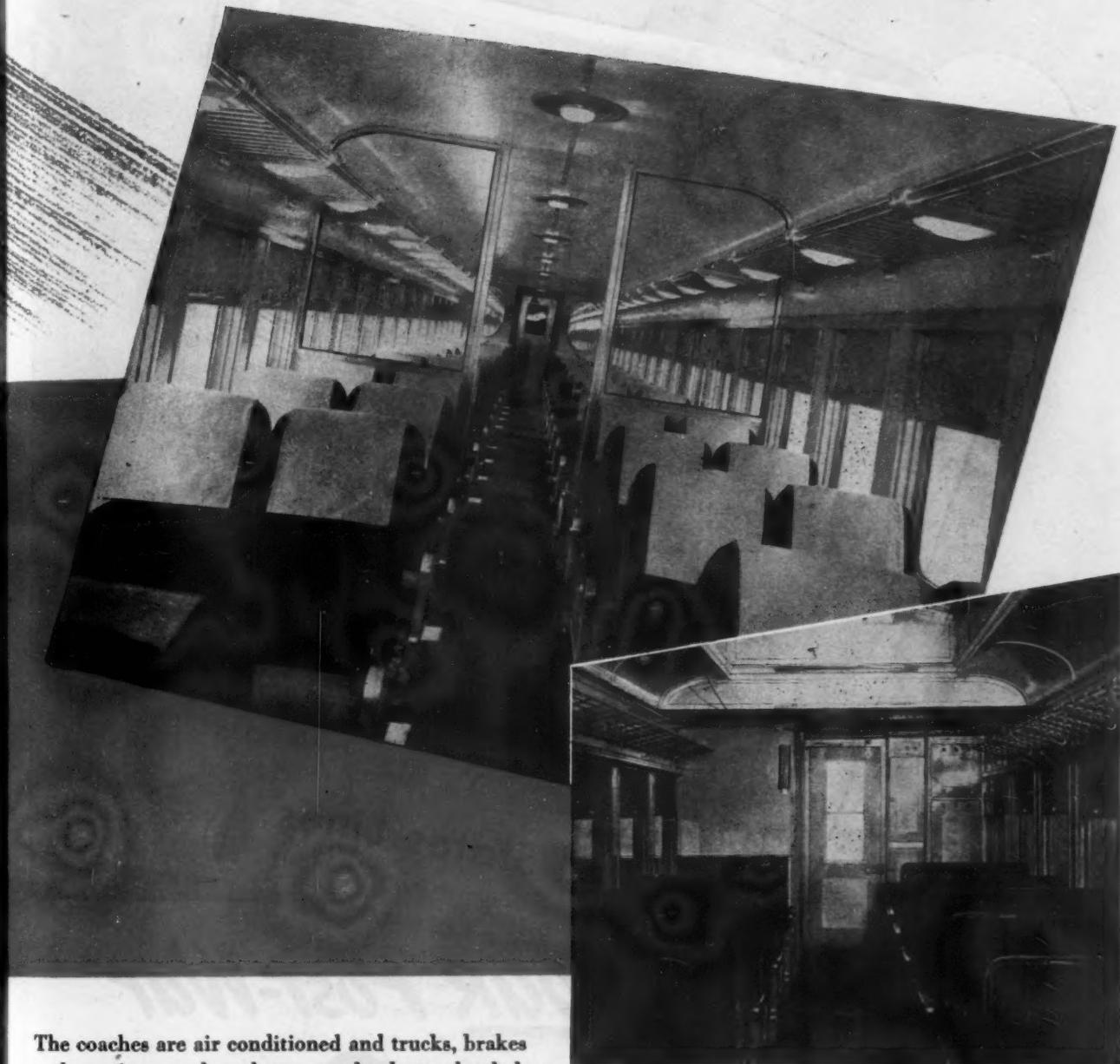
With an eye to the future, the Delaware, Lackawanna and Western Railroad steps forward in car design, decoration, appointments and luxury with the fifteen modern coaches recently received from Q.C.F.'s Wilmington plant. The coaches go well beyond conventional conceptions of streamlined travel with several distinctive advances:

- (1) Both the smoking and non-smoking public can now be comfortably accommodated in the same car! A handsome safety glass partition divides each coach into a 44 seat non-smoking section — with 18 seats for those who want to puff as they please.
- (2) Eight pay lockers per car provide protection for topcoats and hand luggage while the owners are in diner or grill.
- (3) In addition to and across the aisle from the ladies' wash room is a restfully-styled powder room equipped with vanity table and mirror, leather chair and a wash basin.

WHATEVER Q.C.F. BUILDS — IT IS KNOWN TO BUILD WELL!

AMERICAN CAR AND FOUNDRY COMPANY

S!
Y



The coaches are air conditioned and trucks, brakes and running gear have been completely overhauled.

OTHER PERTINENT HIGHLIGHTS

- Individual reclining, revolving seats upholstered in rust frieze mohair.
- Interior decorative motif of restful shades of green complemented by shades of rust, cream and gray.
- Satin finish aluminum moldings, end doors, basket racks and lighting fixtures.
- Individual lighting for greater convenience of night travel.
- Greenish gray curtains in complete harmony with interior.
- Oval mirrors on all end partitions.
- Floor covering of harmonizing linoleum.
- Exterior finished in dark green with double glazed aluminum sash.

a.c.f.

NEW YORK • CHICAGO • ST. LOUIS • CLEVELAND • WASHINGTON
PHILADELPHIA • PITTSBURGH • ST. PAUL • SAN FRANCISCO

Insurance especially for this campaign by A. Weller Thompson Company (Agency for U. S. Lines)

United States Lines

TO ALL EUROPE • NO. 1 BROADWAY, NEW YORK CITY

How about YOUR Post-War TRAVEL ADS?

NOWADAYS the travel business is all out for General Somervell. But soon, all of us hope, it will be all out for John Q. Tourist.

Then advertisements like this one will begin showing up in TIME again—for travel advertisers well know that TIME is the best way to reach America's most traveled million, have placed more Travel, Resort and Hotel advertising in TIME than any other magazine for nine of the last eleven years.

And TIME will be tops tomorrow, too. For example, a recent survey shows that 64,000* TIME families plan to visit Continental Europe within five years after the war and that 281,000* TIME families plan to visit Europe someday.

*Facts from a recent survey.
Complete report sent on request.

THE WAY TO REACH AMERICA'S

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Philadelphia	Cleveland	Detroit
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N

RINGING THE BELL FOR THE NEW HAVEN



Put into N.Y.N.H. & H. service in 1941, seven of these "Caterpillar" Diesel-powered 44-tonners had rung up, to date of report, a total of 78,000 service hours—an average of more than 10,000 hours per locomotive. This is high availability, since six of the seven units were assigned to only six 8-hour shifts per week. During this time they have capably handled each assignment.

That's the kind of performance that makes officials happy, but, in addition to dependability and high availability, these modern 44-tonners have been decisively more economical to operate. The fuel consumption of the New Haven's "faithful seven" has averaged about 4.6 gallons per locomotive hour.

The first overhaul of one of these locomotives, after four years of service—with meters showing 16,400 hours for No. 1 and 18,000 for No. 2 "Caterpillar" Diesel Engine—brought this shop report:

"Wear in main bearings—Negligible. Crank pins and main shafts—Okeh. Piston pins—All good. Liners, pistons, and rings—Replaced though not badly needed."

Any wonder that the New Haven has recently added ten more of these compact, powerful and dependable 44-tonners—for a total of seventeen to date?

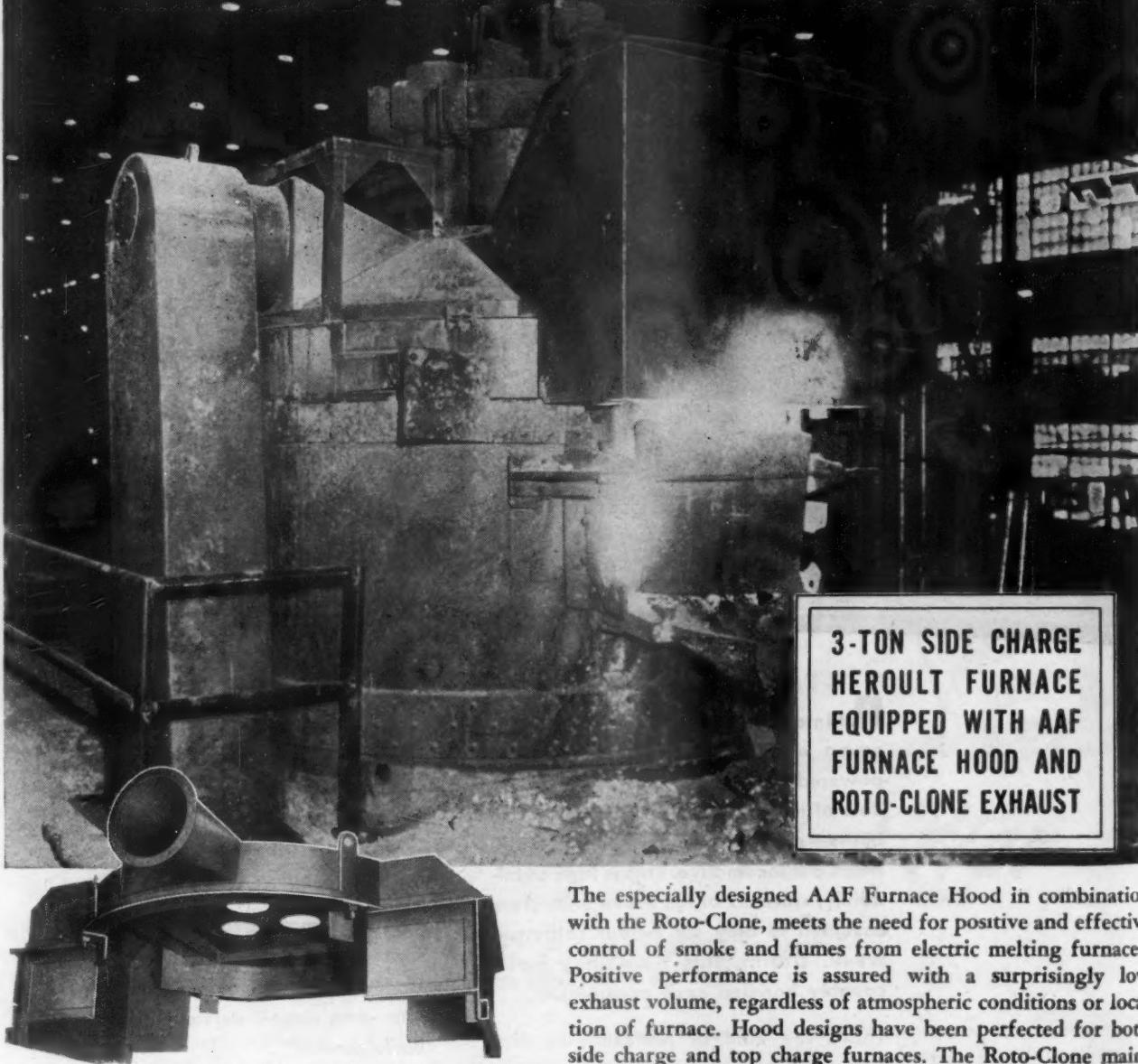
CATERPILLAR TRACTOR CO., PEORIA, ILLINOIS

CATERPILLAR DIESEL ENGINES
REG. U.S. PAT. OFF.
TRACTORS • MOTOR GRADERS
EARTHMOVING EQUIPMENT



*The discharged veteran wears this emblem.
Remember his service and honor him.*

No Smoke, Dust or Fumes CLOUD THE AIR HERE!



3-TON SIDE CHARGE
HEROULT FURNACE
EQUIPPED WITH AAF
FURNACE HOOD AND
ROTO-CLONE EXHAUST

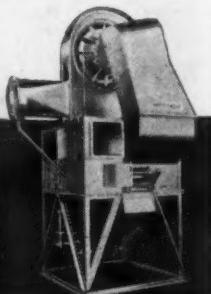
Typical Electric Furnace Hood designed by AAF engineers. Each electric furnace requires individual hood designing to conform to both type of furnace and location of Roto-Clone unit used to exhaust smoke, dust and fumes.

The especially designed AAF Furnace Hood in combination with the Roto-Clone, meets the need for positive and effective control of smoke and fumes from electric melting furnaces. Positive performance is assured with a surprisingly low exhaust volume, regardless of atmospheric conditions or location of furnace. Hood designs have been perfected for both side charge and top charge furnaces. The Roto-Clone maintains the necessary indraft through the hood to prevent smoke, fume and dust dispersion during the melt down molten metal, boiling and refining stages. Send for descriptive Bulletin No. 278. It's full of helpful facts.

AMERICAN AIR FILTER COMPANY, INC.
111 Central Avenue, Louisville 8, Kentucky • In Canada: Darling Bros., Ltd. Montreal, P. Q.

ROTO-CLONE

FOR FOUNDRY DUST CONTROL

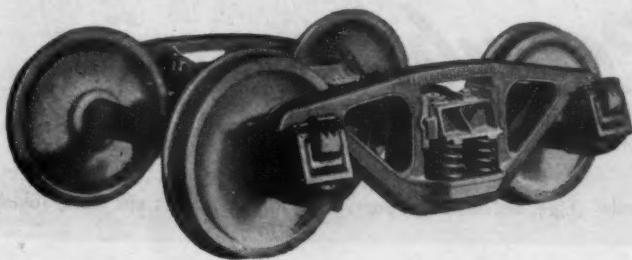


11,000 car sets of the
A.S.F. Ride-Control Truck
(A-3) are already in service
or on order for 23
railroads and car owners
for applications ranging
from box-express* to
hopper cars.

MINT-MARK OF FINE CAST STEEL

*These cars often exceed 100
m.p.h. Some have gone over
100,000 miles.

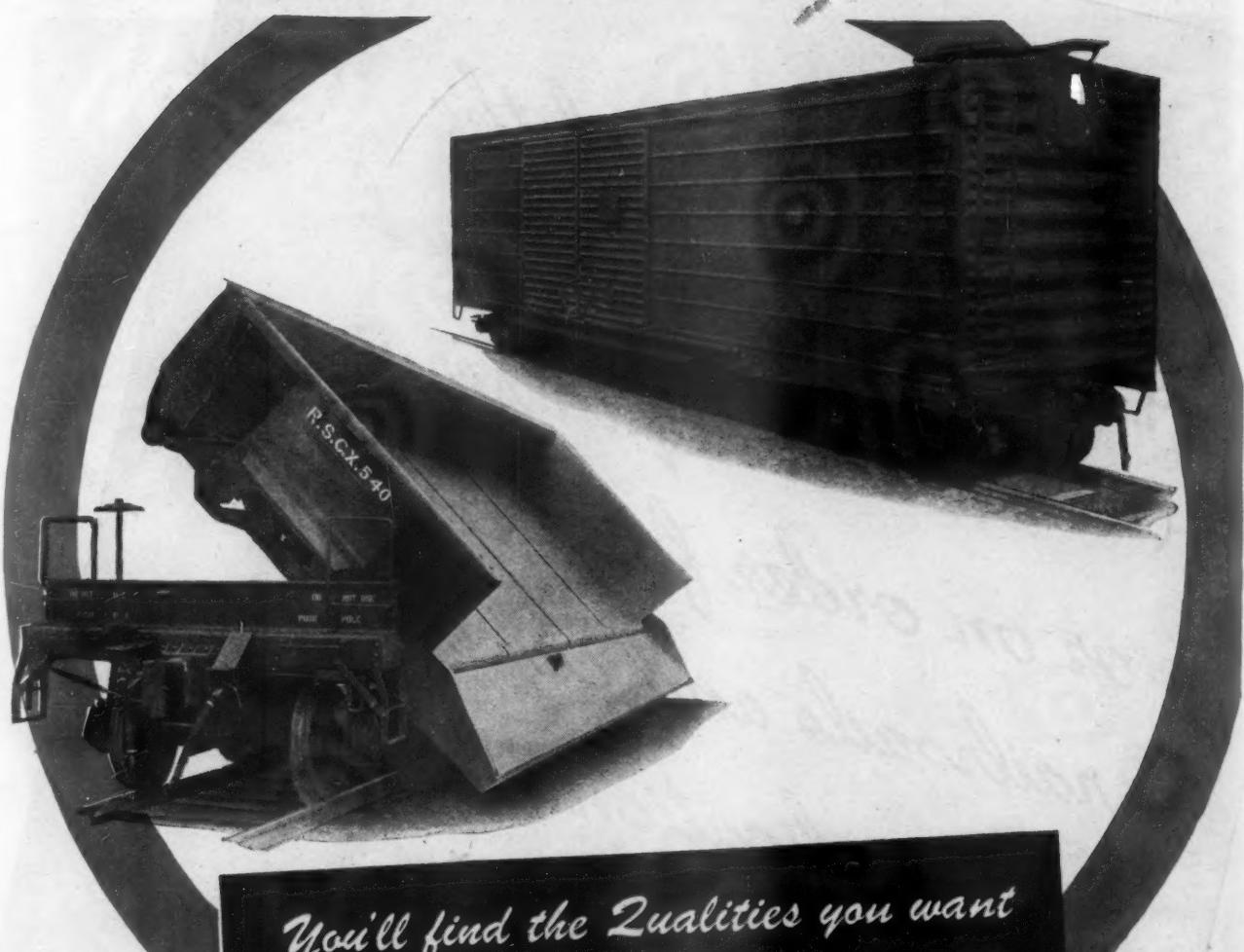
A·S·F Ride-Control TRUCK



LONG SPRING TRAVEL · CONSTANT FRICTION CONTROL

AMERICAN
STEEL
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*You'll find the Qualities you want
IN*

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Because every step in their production is carefully and scientifically controlled by one closely knit organization, you are assured

of uniformly high quality in all Republic Plate Products.

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LOUISVILLE & NASHVILLE R. R.
CLINCH RIVER, NEAR
KNOXVILLE, TENN.

POST-WAR POWER INSURANCE...



An alkaline battery in the battery compartment saves weight where it counts most — near the middle of the car. The larger the kilowatt-hour capacity, the greater is the weight that can be saved by using an alkaline battery.

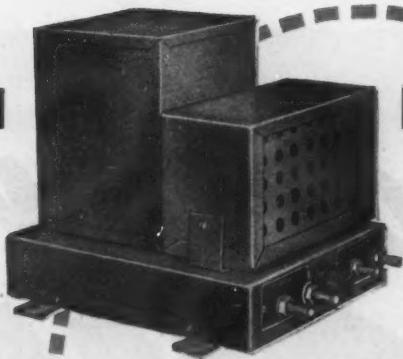
IT MAKES no difference which electrical system you may decide to use in new post-war passenger cars—32-volt, 64-volt or 110-volt—you can be certain that Edison Alkaline Batteries will provide standby power of unequalled dependability. They operate equally satisfactorily with any of these systems. Installations of 25-cell, 50-cell and 88-cell batteries have been used successfully with all three for many years.

In fact, alkaline batteries have proved so dependable that, after delivering normal service life on passenger cars, they are often reapplied to baggage, express or other cars having smaller load demands. There they give additional years of unfailing service. Thus, you have full assurance that alkaline batteries will provide the power insurance necessary for utmost passenger comfort and convenience on your post-war cars. *Edison Storage Battery Division of Thomas A. Edison, Incorporated, West Orange, New Jersey.*

Edison
THE LIGHT WEIGHT BATTERY
FOR LIGHT WEIGHT CARS

FOR MODERNIZATION

IN RAILROADS



A VIBRATOR POWER SUPPLY

Belongs Here

... because it is the most efficient, reliable, and economical power conversion equipment available to make possible modern fluorescent lighting and two-way radio operation on all railroad trains.

FLUORESCENT LIGHTING

Fluorescent lighting not only means added comfort and beauty for modern lounge and dining cars as well as for coaches, but for the first time it brings really adequate illumination to passengers. Actual tests have shown that passengers definitely prefer this cool, more effective type of lighting. To the railroad operator it means increased passenger satisfaction, plus greater lighting efficiency and economy because fluorescent lamps provide twice as much light as incandescent lamps of equivalent wattage.

Electronic Laboratories has developed two current converting systems which are particularly good for the operation of fluorescent lights from the regular electrical systems of railroad cars.

Universal System—This compact, lightweight power conversion system permits the operation of ten 42" Slim-Line fluorescent lamps (2 circuits of 5 each), from 32 volts DC or any other input voltages desired. It produces over 30 lumens of light per input watt. The system incorporates dual series circuits, to provide the simplicity of series wiring.

However, individual lamp control is possible by short-circuiting any desired lamp in the series string, since the system automatically adjusts to the new operating load. Proper lamp operation is assured at all times, regardless of variations in input voltage, because of voltage regulation which has been built into the system.

Voltage-Doubler System—This **EL** Power Supply System is especially economical where 32 volts DC is available as a power source. It consists of a voltage-doubler type converter which steps up the 32 volts DC to 64 volts DC from which twenty 14-watt fluorescent lamps may be operated. Lamps are connected in parallel which permits individual control, and the system produces 15 lumens of light per input watt.

TWO-WAY RADIO

EL Power Conversion Equipment for the operation of two-way radio from 12, 32, 64, and 110 volts DC is now available for test radio installations, designed to your specifications. Electronic's experience in the design and manufacture of military radio power supplies, for which similar operating requirements prevail, assures your complete satisfaction.

Electric razors, or radio receivers may also be operated by **EL** Power Supplies for the convenience of your passengers.

Write **EL** engineers today regarding your plans.

EL FLUORESCENT LIGHTING POWER SUPPLY MODEL S-946-A

The typical **EL** model illustrated above may be utilized as a multi-channel unit for the operation of eighty 14-watt fluorescent lamps, by having four units run together. Specifications (of a single unit): Input, 32 volts DC; Output, 64 volts DC at 5 amps. Dimensions: 6-3/16 x 8-1/8 x 7-3/4 inches.



VIBRATOR POWER SUPPLIES FOR LIGHTING, COMMUNICATIONS, ELECTRIC MOTOR OPERATION, ELECTRIC, ELECTRONIC AND OTHER EQUIPMENT

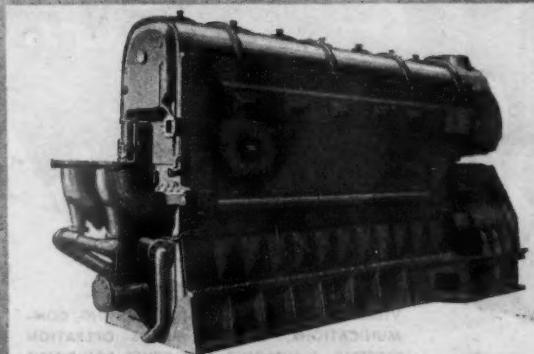
TOMORROW'S POWER TODAY!



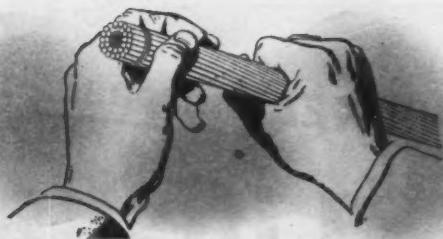
It's the
Opposed-Piston Diesel Locomotive
by
FAIRBANKS-MORSE

A name worth
remembering

2000 HORSEPOWER
1200 H.P.



ALCOA A-C-S-R



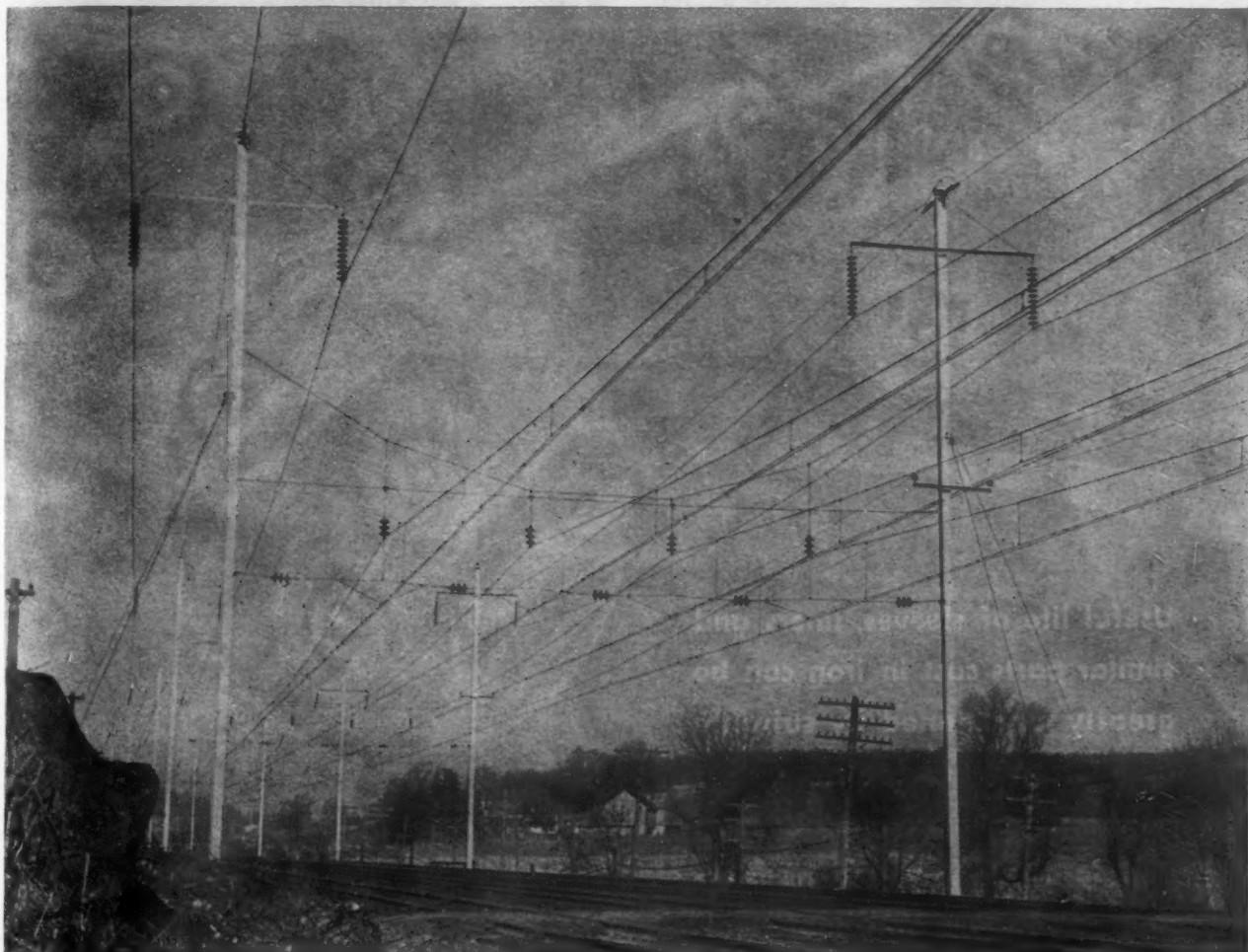
One of the most dependable conductors of electricity on the Pennsylvania Railroad

This conductor is always on the job . . . always ready for service . . . always dependable . . . it's the Alcoa A.C.S.R. (Aluminum Cable Steel Reinforced) used on the Pennsylvania Railroad between Paoli and Enola.

Aluminum wires around a core of steel provide the combination of high current

carrying capacity, high strength and dependability so important in the operation of electric lines.

More than a million miles of Alcoa A.C.S.R. are now in service as proof that you can depend upon it to deliver the goods. ALUMINUM COMPANY OF AMERICA, 2178 Gulf Building, Pittsburgh 19, Pa.



477,000 cm A.C.S.R. operating at 132,000 volts is used on the Paoli-Enola (Harrisburg) section of the Pennsylvania Railroad



ALCOA ALUMINUM

NICKEL increases their

Life Expectancy . . .



Useful life of sleeves, liners and similar parts cast in iron can be greatly lengthened by suitable additions of Nickel to a properly adjusted base mixture. Counsel and data to help you in the selection, fabrication and heat treatment of ferrous and non-ferrous metals is available upon request.

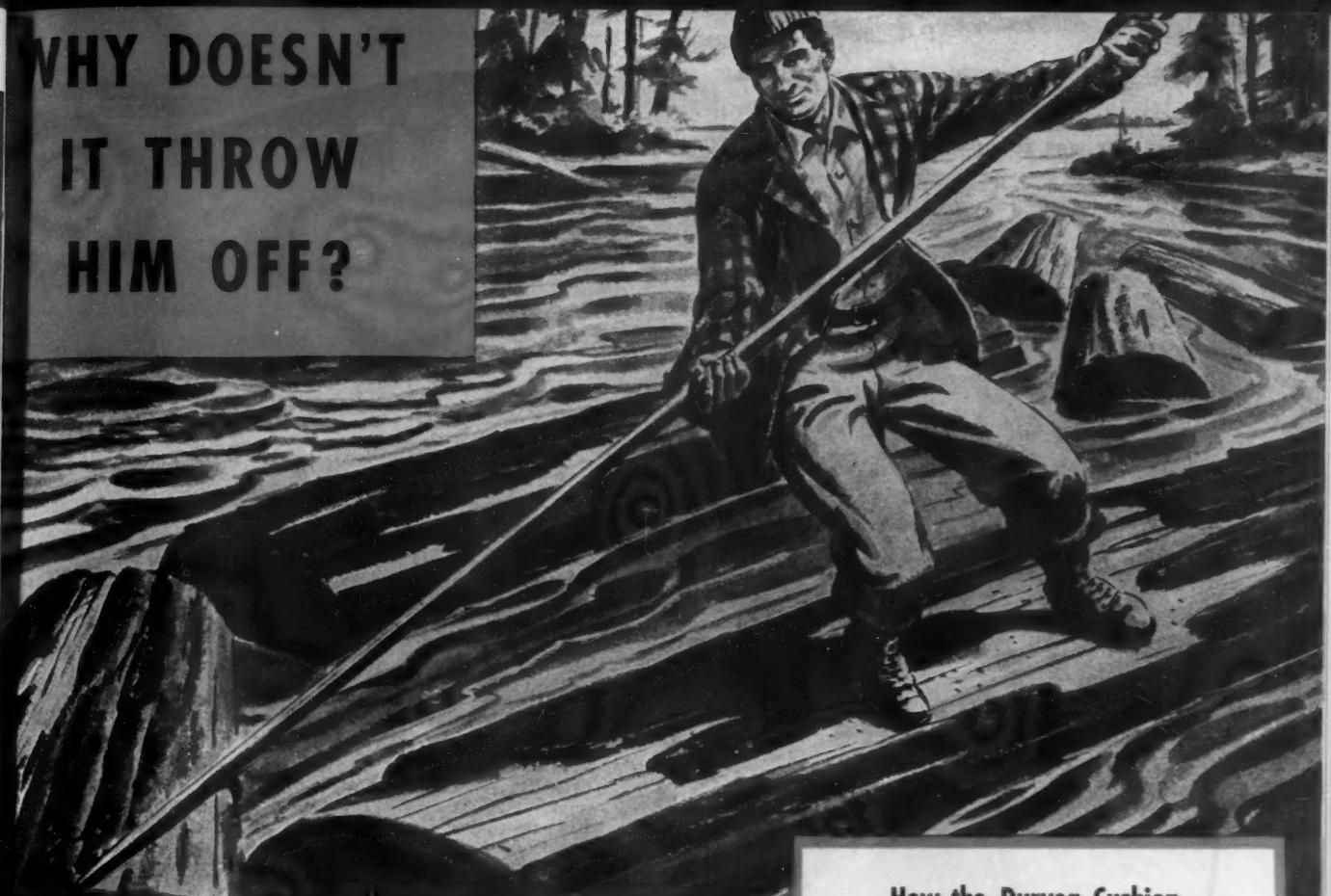
NICKEL
Cast Iron

THE INTERNATIONAL NICKEL COMPANY, INC.

67 WALL STREET
NEW YORK 5, N.Y.

RAILWAY AGE

WHY DOESN'T IT THROW HIM OFF?



Just standing upright on a floating log is a feat in itself—but the experienced woodsman can do it in the midst of a jam of logs bumping and grinding against each other. He's trained to ride over any jolt his log may take, letting the force of the impact travel through yielding ankle, knee and hip muscles.

MOVEMENT CUSHIONS THE SHOCK!

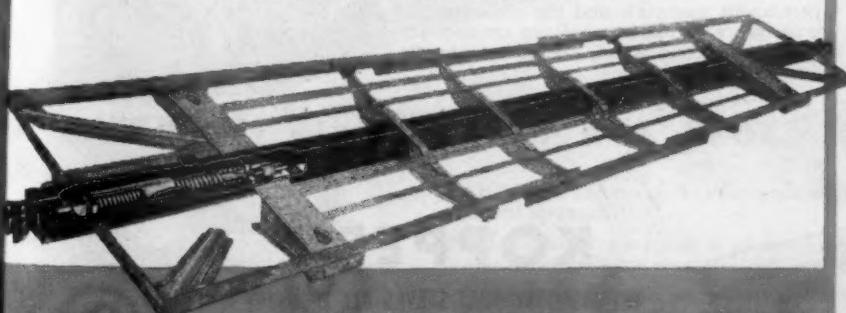
The same principle, in the Duryea Cushion Underframe, gives you SHOCKPROOF SHIPPING.

The Duryea Cushion Underframe allows car and lading to ride over a jolt, as the floating center sill travels the impact the entire length of the car, absorbing it in big, powerful steel springs.

O. C. DURYEA CORPORATION

30 Rockefeller Plaza, New York 20, N.Y. - 135 So. LaSalle St., Chicago 3, Ill.

725 Fifteenth Street, N.W., Washington 5, D.C.



DURYEA *Cushion* UNDERFRAME FOR FREIGHT CARS

The Modern Safeguard For Shockproof Shipping

How the Duryea Cushion Underframe Contributes to Victory

PROTECTS car and lading, prolongs car life, cuts damage claims.

PERMITS higher handling speeds.

ELIMINATES gear replacements maintaining efficiency for life of car.

SAVES TIME loading and unloading. Needs less packing and bracing.

SAVES MONEY usually spent for maintenance on every part of car.

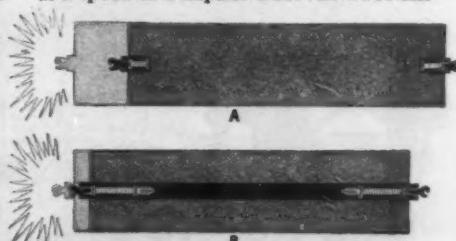
COMPLEMENTS air brake; Duryea cars withstand abrupt stops.

CUTS SLACK to pre-determined ideal.

COSTS NO MORE than conventional type, for average Duryea gear.

Here's what actually happens

. . . when two stationary freight cars receive the same impact, equivalent to a 50-ton car, loaded to capacity, coupling at a speed of 4 m.p.h.: CONVENTIONAL

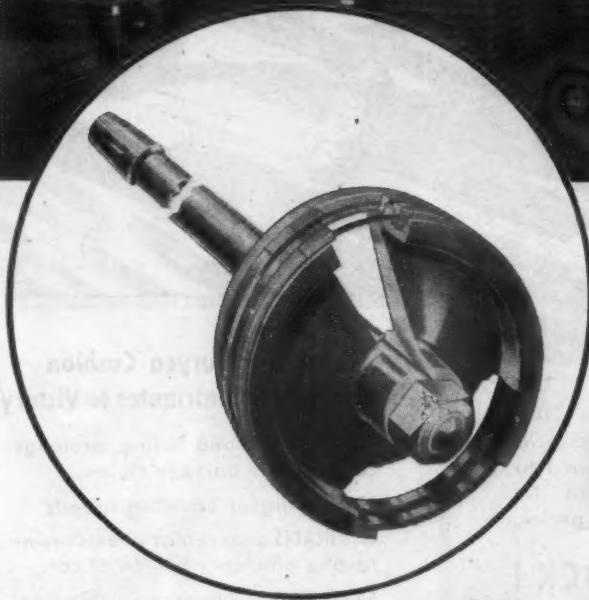


CAR (A): Draft gear "goes solid," car receives almost entire impact.

DURYEA CAR (B): Shock absorbed by cushion gears, car and lading are comparatively undisturbed.

3

BUY WAR BONDS—AND KEEP THEM!



HIGHLY-MECHANIZED BRONZE FOUNDRY MEANS GREATER CYLINDER PACKING MILEAGE—This very modern bronze foundry at American Hammered Piston Ring Division of Koppers makes possible quantity production of bronze on a quality basis. One of the uses of this bronze is to make bronze-iron cylinder packing which is providing service up to 200,000 miles on many of America's hard-working railroad locomotives.

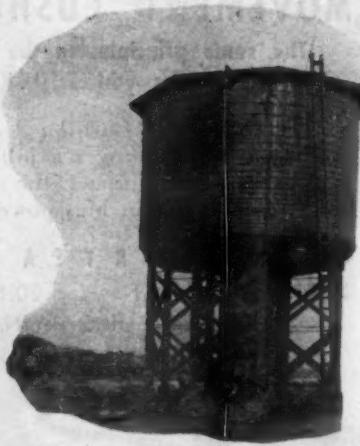
KOPPERS

and the Railroads

KOPPERS COAL TAR PITCH ROOFS HEAL SMALL BREAKS—Koppers Coal Tar Roofing Pitch has a property known as "cold flow" which enables it to heal small surface breaks which occur as a result of vibration, settlement of the building, etc. This is particularly valuable in railroad buildings which must stand so much vibration.



PRESSURE-TREATED WOOD WATER TANKS CUT COSTS—One railroad's records show that the original cost of pressure-treated wood water tanks is less than half that of other permanent materials and the expected life is 50 years. Koppers produces creosote for pressure-treating wood, and it operates 21 wood-treating plants.



KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

KOPPERS COMPANY, INC., Pittsburgh 19, Pa.

NO. 8 OF A SERIES ILLUSTRATING THE EVOLUTION OF AMERICAN LOCOMOTIVES



1881—SHAW'S 4-CYLINDER BALANCED ENGINE

The H. F. Shaw, built by the Hinkley Locomotive Works in 1881, had four cylinders and was publicized as being entirely free from the pounding and oscillating action of two-cylindered engines. The cylinders were arranged side by side, transmitting the power to crank pins diametrically opposite each other. One of the crank pins connected outside the driving wheel at the same position an ordinary crank pin would be located, and carried a double crank, which was supported in a bearing secured in an outside frame. The bearing was the driving fulcrum, a main rod working at each side of it. The engine was equivalent to one with two cylinders 16" x 24" and driving wheels 63" in diameter. The weight in working order was 74,000 pounds, of which 23,600 pounds was on the truck wheels.

From "IRON HORSES" . . . W. W. NORTON & CO., INC.



6 plants of
Blaw-Knox Company
have been awarded
the Army-Navy "E"
for excellence



"ENTIRELY FREE FROM POUNDING"

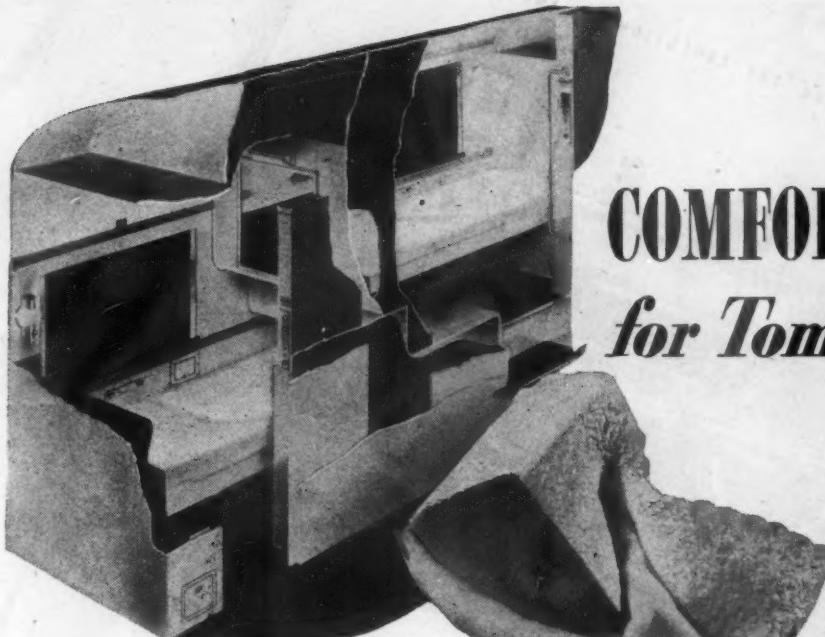
Four cylinders, two cylinders or turbine—any locomotive develops smoother power with . . .

UNION WEB SPOKE DRIVING WHEEL CENTERS

- ★ Cruciform section spokes for great additional strength.
- ★ Reinforced rim support to eliminate flat spots, out of roundness, etc.
- ★ Correct distribution of metal for better balancing of smaller diameter wheels.
- ★ Wheels easily inspected before and after installation.
- ★ Troubles due to shrinkage eliminated by simplicity of design.
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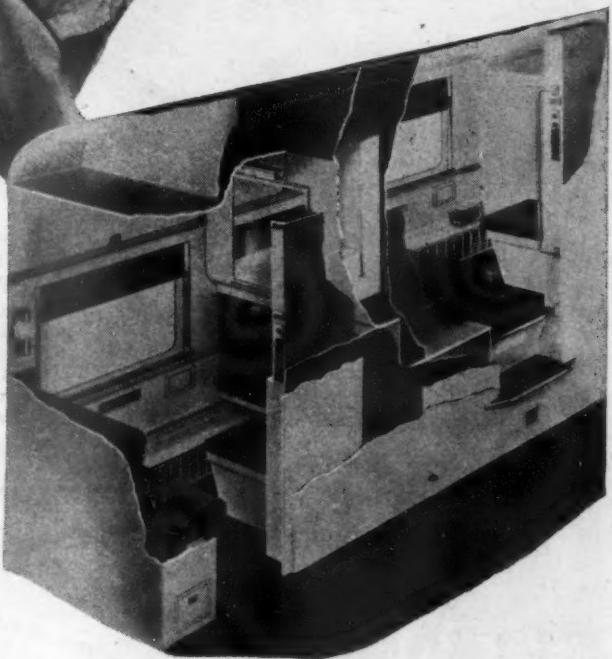
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COMFORT ENGINEERED for Tomorrow's Trains

The Duplex-Roomette, developed by the Pullman Company, provides travel-inviting comfort and convenience of room accommodation at lower cost. Shown at top is sleeping arrangement. Below: preparation for daytime occupancy.



Ten years ago, "U.S." Koylon Foam was introduced—and a new era in comfort began. Made of buoyant latex cells which embrace soft, clean air—Koylon fairly *breathe*s comfort. This combination of air and whipped latex that makes Koylon so comfortable, also makes it naturally clean—free of dust, dampness, of numerous parts that wear out—Koylon is free of repair, replacement and renovation costs. This single, well formed unit keeps its shape longer, too.

Naturally railroads were quick to adapt this last word in passenger comfort and maintenance economy. But Koylon's prewar service in seating and mattresses was only a preview of comfort to come.

Comfort Engineered
"U.S."
Koylon
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FOAM

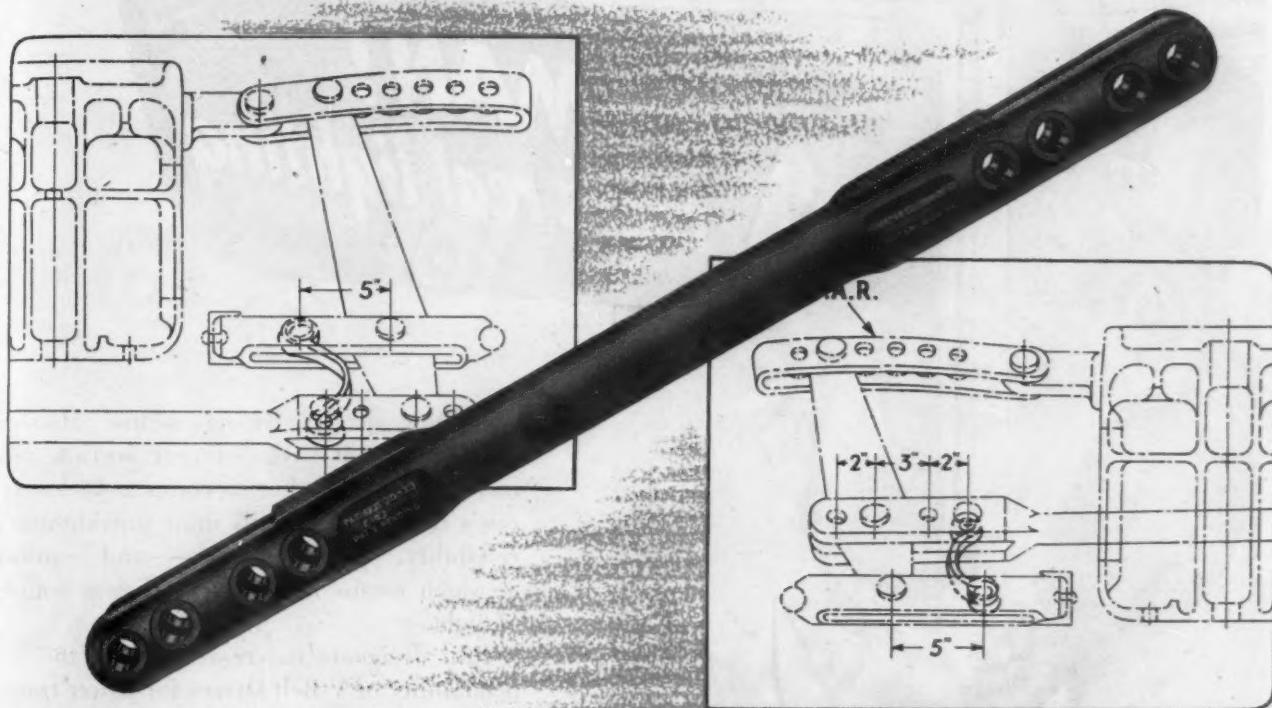


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UNITED STATES RUBBER COMPANY

Serving Through Science

Schaefer Connections are Ideal for use with the BRAKE BEAM LEVELING LINKS



SCHAEFER ENGINEERING has developed a new type connection for use with National Malleable & Steel Castings Company's Brake Beam Leveling Links—either under or through the bolster as indicated by the sketches above.

This type of connection embodies the Schaefer "light weight—full strength-plus" hollow forged design—is properly proportioned for four holes—and carries the leveling link inside the overbuilt jaw structure.

You will find full engineering information and a more complete description in the new Schaefer Catalog. Write today for your copy.



LOOP, "U" AND STIRRUP TYPE BRAKE BEAM HANGERS... TRUCK CYLINDER AND FLOATING LEVERS
TRUCK LEVER CONNECTIONS... BRAKE ROD JAWS... WEAR PLATES... BRAKE SHOE KEYS



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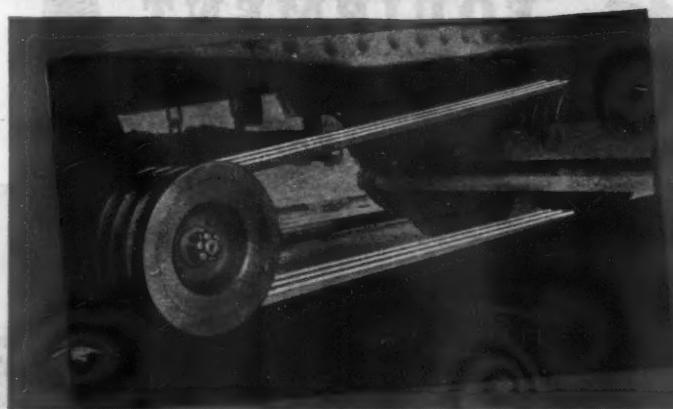
A trifling detail? By no means! Modern lighting is a vital part of your postwar rail travel "package". For to compete in tomorrow's travel world, rails must provide extra reliability, speed, quietness—and comfort—which means in part, an efficient source of light.

Rail designers universally accept the dependability of V-Belt Drives for power transmission to modern generators. And they depend traditionally upon Dayton Rubber the *World's Largest Manufacturer of V-Belts* for Sound Engineering in V-Belt applications.

The men of Dayton's Railway Division will be ready to serve you in the future, as in the past, with properly engineered V-Belts for your most exacting requirements.

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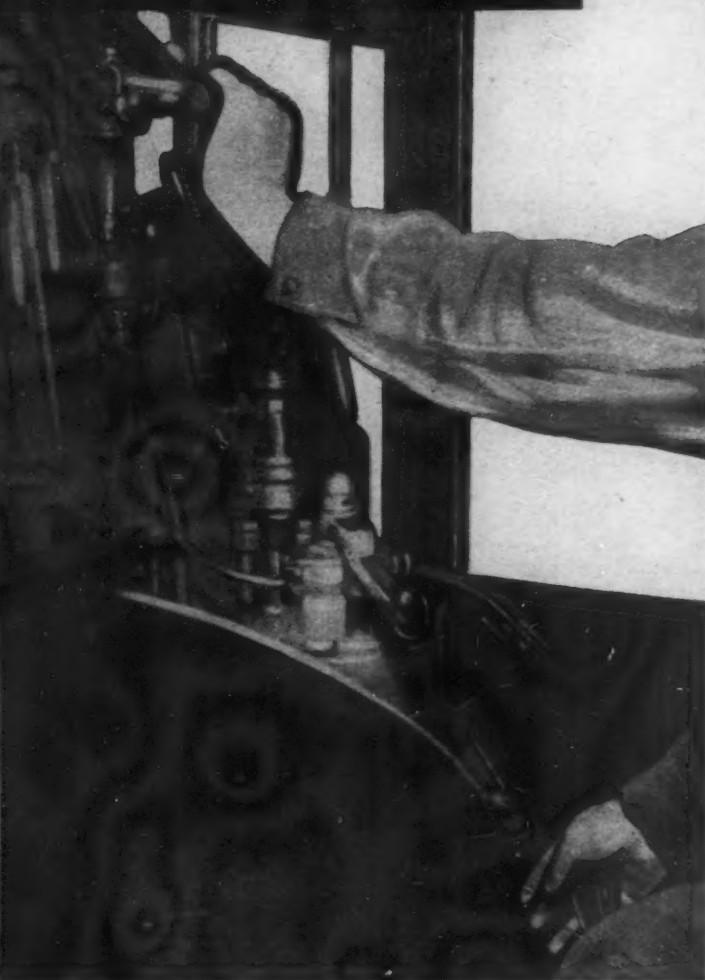
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THE MARK OF TECHNICAL EXCELLENCE IN SYNTHETIC RUBBER

FUMBLE PROOF!



When the engineer reaches for a valve, he wants it *there!* Close to hand . . . convenient . . . fumble-proof. In brief, he wants to watch the road, not grope for a valve.

That's one reason why engineers favor the

SELLERS TYPE "S" INJECTOR

. . . with its single lever that controls all functions . . . starting, stopping, regulating capacity and overflow.

Other features: convenience and safety, less cost for renewals and labor, minimum loss of water

when starting and stopping, no water hammer or bulging steam lines, permits complete drainage of water tank when needed. High above the rails, it clears all roadbed hazards.

No wonder the Sellers has become standard equipment on our major railroads! We'll be glad to give you complete technical information . . . Wm. Sellers & Co., 1831 Hamilton St., Philadelphia.



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**A SPECK OF STEEL LODGED IN AN EYE . . . CAN COST
MORE THAN A DIAMOND**



Valueless in itself, this speck of steel became costly in the split second it took to cause an eye accident. The final bill was \$343.00.*

An adequate eye-protection program demands a place in every *cost reduction* program. And, because

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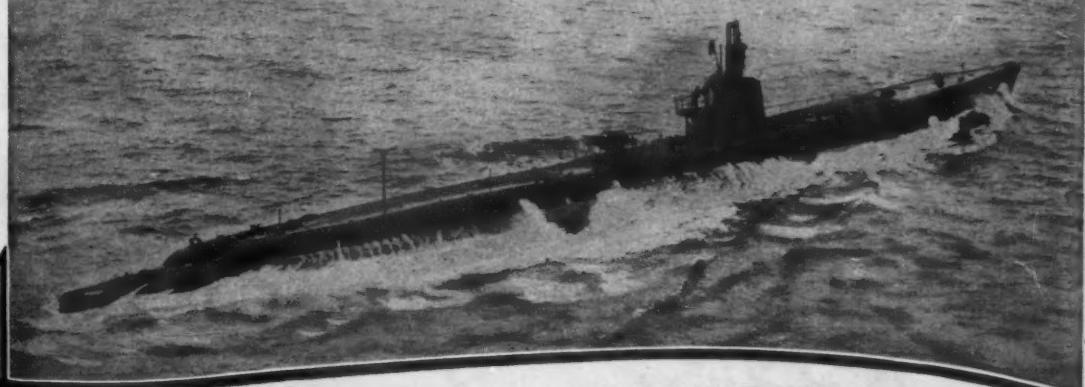
*Average cost of compensation and medical treatment for eye accidents, according to insurance company figures.

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SOUTHBRIIDGE, MASSACHUSETTS

Submarines Awarded the Presidential Unit Citation

Nautilus	SS-168	Trigger	SS-237
Trout*	SS-202	Silversides	SS-236
Wahoo*	SS-238	Harder*	SS-257
Guardfish (two citations)	SS-217	Gudgeon*	SS-211
Greenling	SS-213	Tang*	SS-306
Haddock	SS-231	Seahorse	SS-304
Bowfin	SS-287	Rasher	SS-269
Sailfish	SS-192	Sandlance	SS-381

*Lost



EXIDE SALUTES 16 SUBMARINES

Honored by the Presidential Unit Citation



AS this is written, sixteen U. S. submarines have won the highest honor which can be awarded to a unit of our armed forces. Their achievements stand out among the proudest in American naval history. And the complete story is still to be told.

Ranging incredible distances, often to within gunshot of enemy shores, they have helped to swell the total of submarine-destroyed Japanese vessels to more than 1000—seriously crippling vital supply lines, and preparing the way for the great naval victories that followed.

Their phenomenal successes are a result of superb skill and a brave fighting spirit. As we salute these heroic ships, we take great pride

in the knowledge that all but one of them was powered by Exide Ironclad Batteries.

The same type of Exide Ironclads used to propel a 2000-ton submarine supplies power for lighting and air-conditioning thousands of passenger cars, keeping lights bright and compressors running efficiently even during long stops. Exide Ironclads are also used for cranking powerful Diesel locomotives. Wherever they serve, Exides are performing with dependability, long-life and ease of maintenance.



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BATTERIES

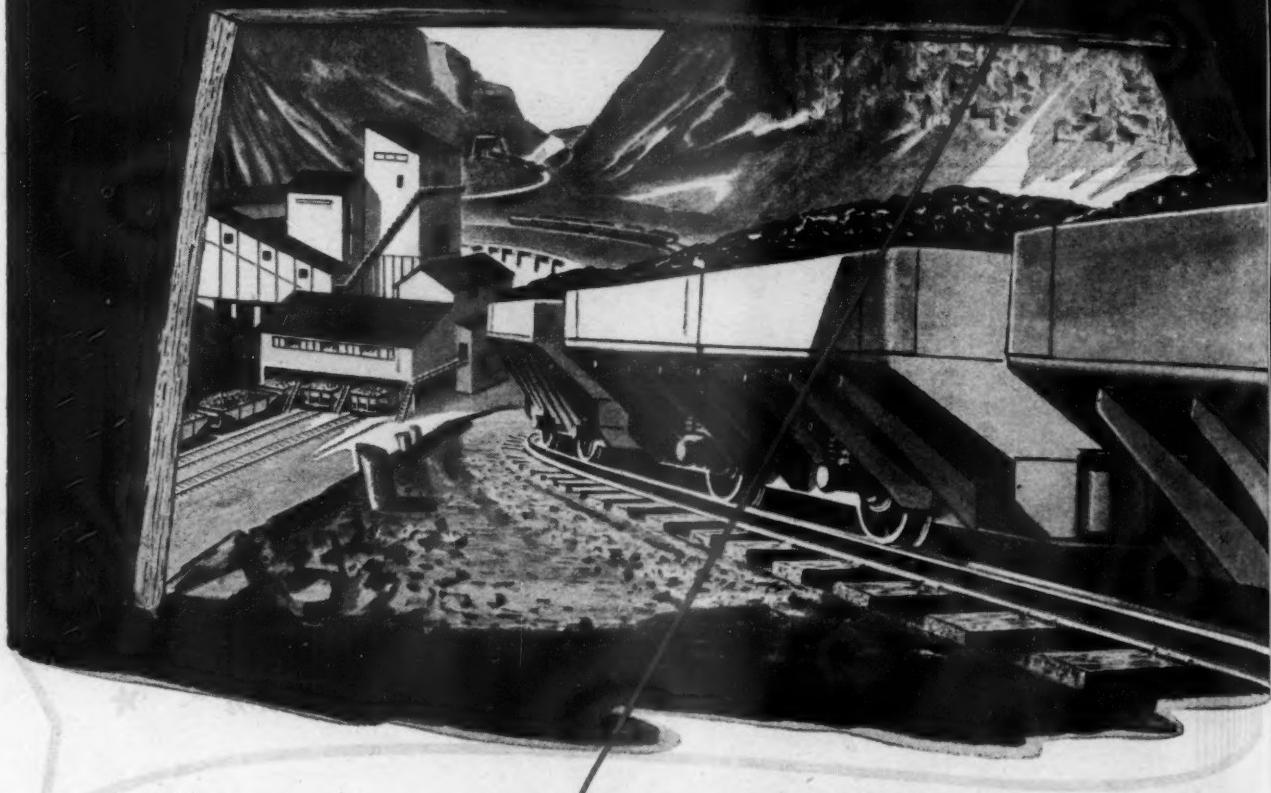
THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 32

Exide Batteries of Canada, Limited, Toronto

DEADWEIGHT TAKES A K.O.—

N-A-X

LOW-ALLOY STEELS



when these FINE-GRAINED STEELS take over

In N-A-X low-alloy steels, manufacturers of mining equipment have what it takes to *knock out deadweight* in the design of cars, elevators, conveyors, tipples, screens and stripping shovels.

It's the old "one-two punch" proposition. N-A-X High-Tensile provides the extra strength in stressed members to permit more efficient design, lighter construction. N-A-X 9100 Series steels do the same for constructional parts that call for accurate heat-treatment, with abrasion-resistance an important factor.

Take advantage of the great strength, exceptional ductility, good corrosion-resistance, excellent weldability and high resistance to impact, wear and fatigue that these fine-grained N-A-X low-alloy steels offer. Put N-A-X High-Tensile and N-A-X 9100 Series steels on the job to cut down deadweight, step up payload and increase the life of your equipment.

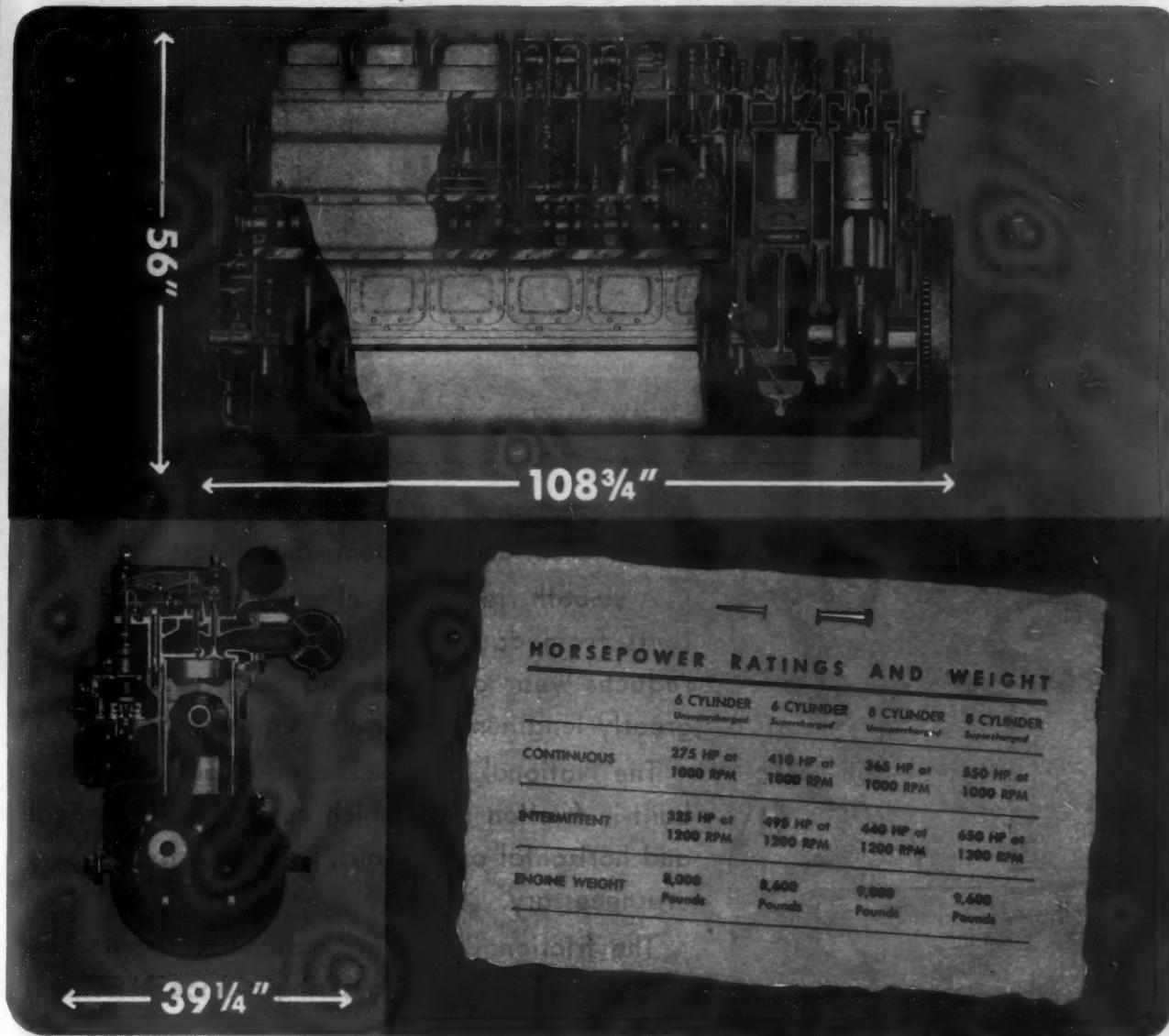
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FROM
GREAT LAKES

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DIESELS by Sterling **COMPACT**
...and loaded with operating features



Here are a few features that make the new Viking Diesel outstanding: Compact as a gasoline engine with the same power rating. Modern engineering design reduces fuel consumption per brake horsepower. Greater accessibility for servicing and making adjustments. Crankcase and cylinder block cast in one piece making for better rigidity of construction. These features and many others that are engineered into the Viking Diesel are fully described in technical bulletins that will be furnished without obligation. Orders accepted now for early delivery.



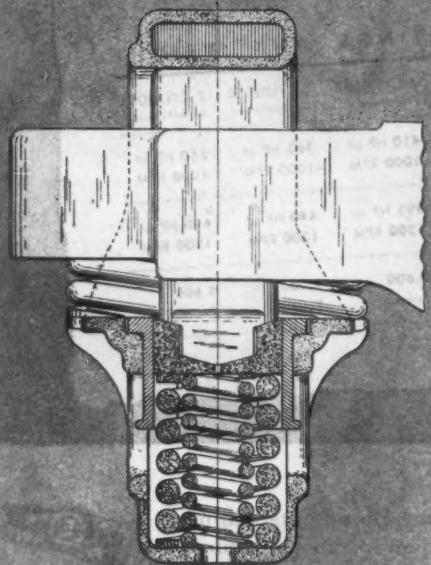
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Full protection of cars and lading, rails and road-bed, is essential for economical railroad operation.

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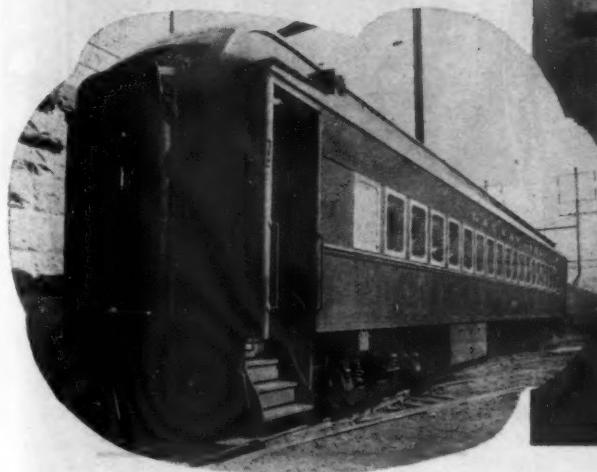
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*A Feature on the
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American Locker Service used for years in railroad stations and terminals is being added to modern passenger coaches.

Parcel checking lockers now bring checking facilities to the traveler while in transit—one of the latest innovations in post-war planning for passenger convenience.

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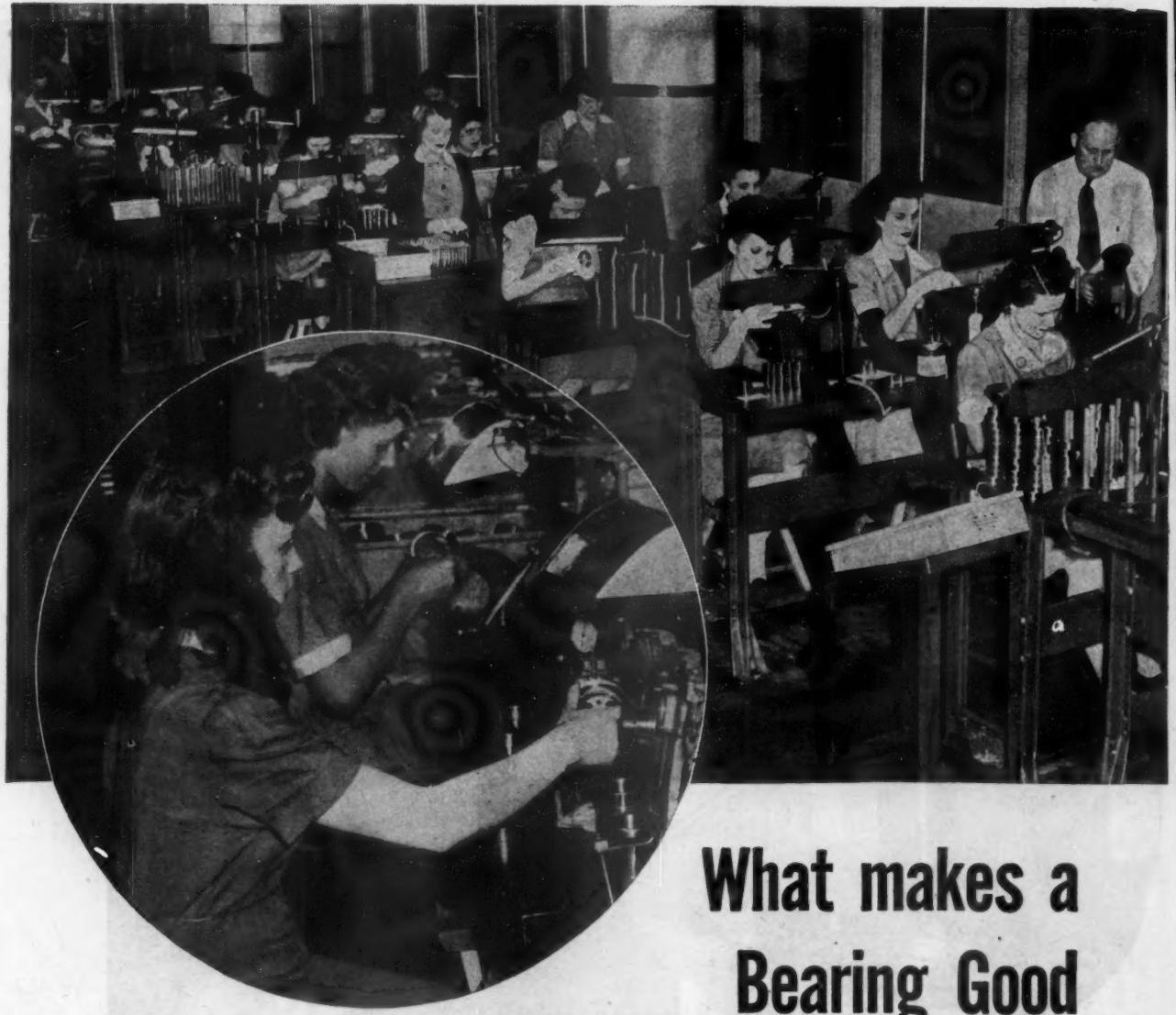
ATLANTA

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LOS ANGELES



What makes a Bearing Good

There are certain folks with Hyatt who won't believe anything they are told about a bearing. They have to *see for themselves!*

That's their job. It starts even before we get the steel from which the bearings are made. Hyatt metallurgists are right in the steel mills to see that specifications are met. It continues through the various steps of precision manufacture until the finished Hyatt Roller Bearing is finally assembled and shipped.

It isn't going to extremes to have so many men and women operators spend-

ing all of their time testing, inspecting, checking and rechecking Hyatt Roller Bearings. This sort of painstaking care is one of the things that makes a bearing good.

And it pays! For faultless bearings are essential to faultless operation—whether the application is for the machine that makes a bomber's crankshaft, or for the crankshaft after it's in the bomber.

Hyatt Roller Bearings have to "make good", so they have to be made good! That's why so many are used.

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION
HARRISON, NEW JERSEY

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette, and the Railway Age-Gazette. Name registered in U. S. Patent Office.

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June 9, 1945

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Tells of a broad survey to be undertaken by a special committee to develop the most efficient and economical means for handling crossties from woods to track.	
Practical Research Shows Way to More Economical Bridge Design	1014
A digest of a recent report of the A. A. R. on impact tests involving short-span steel bridges, with principal attention here being given to the objects, procedure and conclusions of the study.	
Fifty Years of Electric Traction	1018
Recalls the electrification of the original Nantasket branch of the New Haven, the Mt. Holly branch of the P. R. R., and the B. & O.'s Baltimore tunnel — all three of which occurred in 1895 — credit for "famous firsts" being claimed for two of the roads on different counts.	
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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service



PRINTED IN U. S. A.

Centralizing the control of six interlockings in a single tower

More than twenty years ago, the Pennsylvania Railroad decided to consolidate three interlockings on the north bank of the Allegheny River, near Aspinwall, where a bridge connects these areas with tracks on the south side of the river.

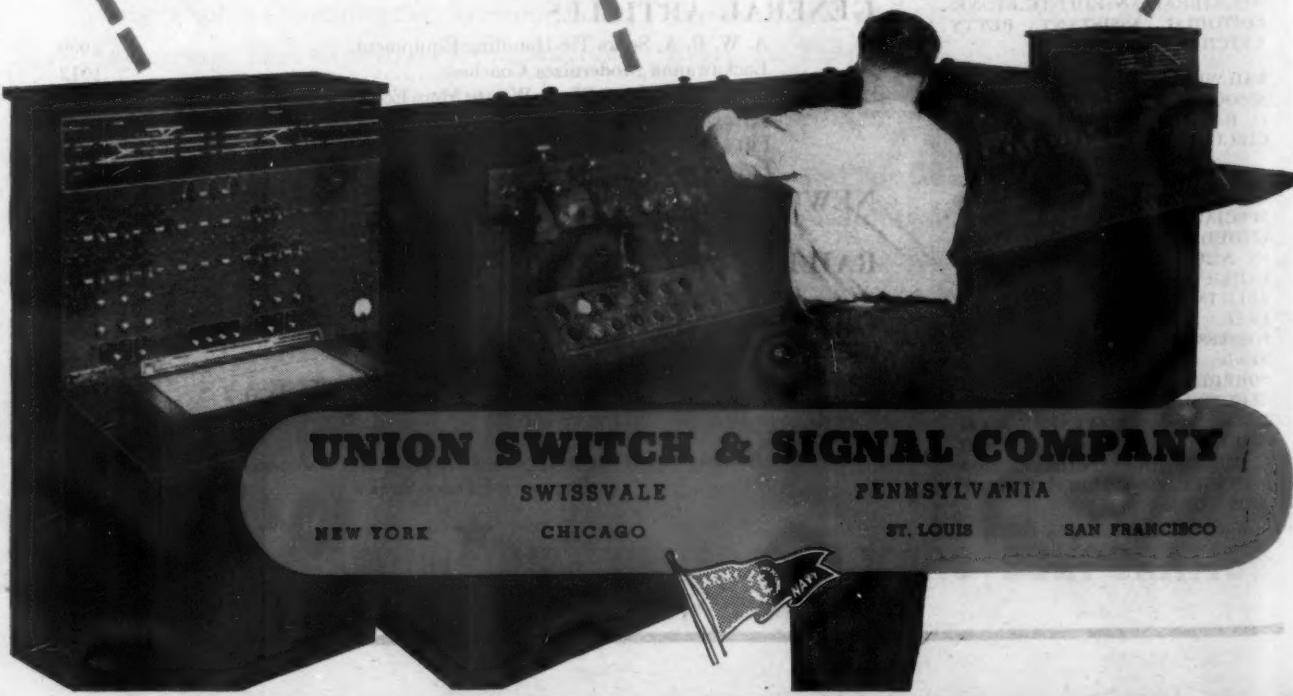
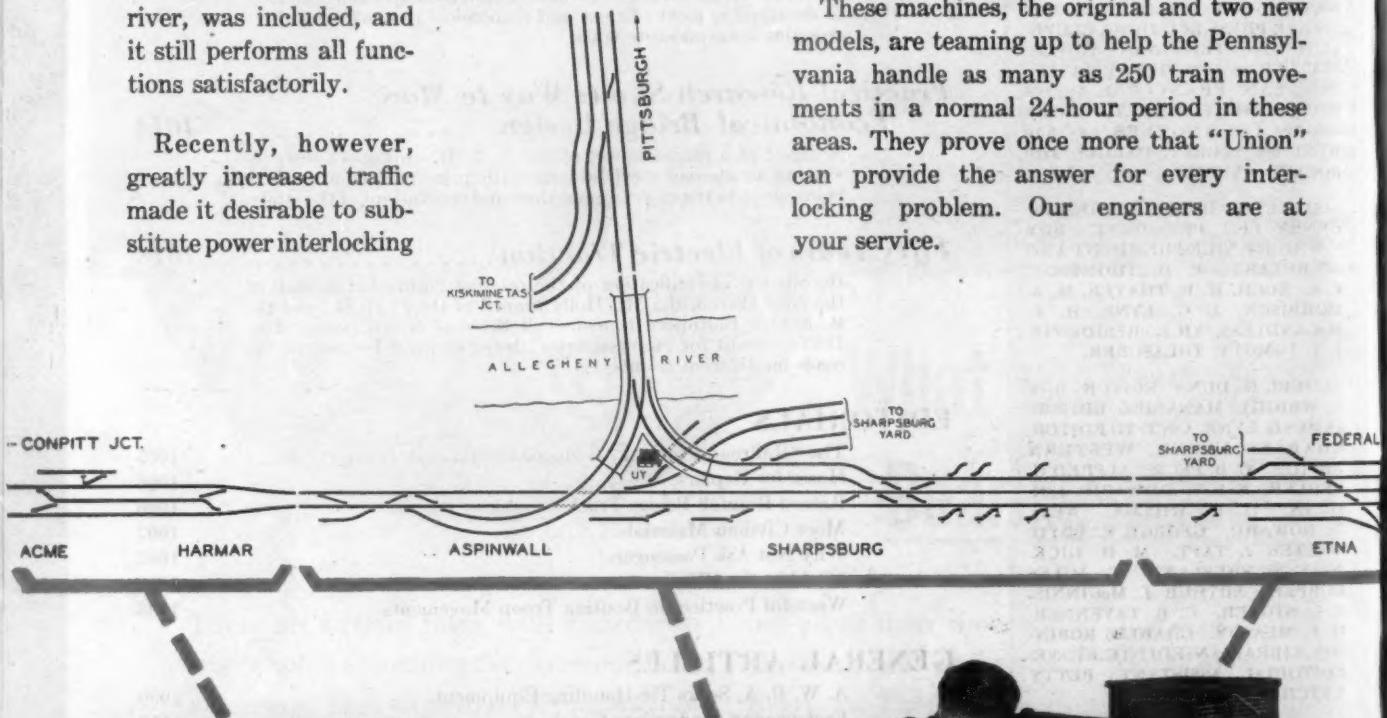
A "Union" electro-pneumatic interlocking controlled by a Model 14 machine was the logical answer. It continued to meet all needs when a fourth area, across the river, was included, and it still performs all functions satisfactorily.

Recently, however, greatly increased traffic made it desirable to substitute power interlocking

for hand operation in two other areas—between Sharpsburg and Etna, about two miles west of Aspinwall, and between Harmar and Acme, about six miles east.

Again "Union" provided the answer—two "Union" Unit-Lever relay-type interlocking machines were installed in Tower UY beside the original Model 14 machine.

These machines, the original and two new models, are teaming up to help the Pennsylvania handle as many as 250 train movements in a normal 24-hour period in these areas. They prove once more that "Union" can provide the answer for every interlocking problem. Our engineers are at your service.



The Week at a Glance

NO TIME FOR TIMIDITY: Many opportunities are available to the railroads to assert themselves forcefully and repeatedly against the perpetuation of a public policy which doles out tax-provided funds for the building of transportation facilities without requiring the users of such facilities to amortize the investment and carry the costs of maintenance—and the leading editorial in this issue challenges the railroads to grasp these opportunities, all of them, and so to hammer home in every available national or local, friendly or hostile forum the simple and understandable argument that efficient and improved railroad service will not be maintained indefinitely at private expense, if competing transportation agencies are to continue to enjoy comfortable subsidies and thereby to be able to attract traffic that could be handled with greater absolute economy by the railroads. Such reiterated arguments will inevitably have a noticeable educational effect, it is suggested, the magnitude of which is likely to be more or less proportional to the vigor and forthrightness with which they are presented.

HEAD-END LIGHTING: What the Jersey Central has done in the way of equipping its suburban trains with a standardized head-end lighting plant is reported in an illustrated article this week. Ultimately 60 engines and 300 cars will be fitted with the new apparatus, a distinctive feature of which is an arrangement of connections that permits an instantaneous change-over from a. c. standby station power to d. c. head-end power. Twelve-kw. turbo-generators, located on the tender tanks, provide sufficient capacity for 15-car trains, and permit the removal of batteries and generating equipment from the cars, with a consequent saving in dead weight, while constant voltage is obtained at the same time.

RENOVATED COACHES: An illustrated account of the overhauling and redecorating job which has been done on 15 Lackawanna coaches appears on page 1012. A tasteful color scheme, glass partitions, modernized washrooms, and individual reclining, revolving seats characterize the interiors. The trucks, brakes and running gear were thoroughly renovated at the same time. A novel feature is the installation at one end of each car of a group of eight coin-in-slot locked baggage lockers, similar in principle to those widely used in passenger stations; it is believed that this is the first application of such facilities in railroad coaches.

AB BRAKES ORDERED: The I. C. C. has in effect put it up to the individual railroads to say how quickly they can complete the conversion of the brake equipment of their interchange freight cars from the K type to the AB type. As reported in the news pages, the commission has prescribed power brake specifications and has indicated its intention to prescribe a program for the eventual equipment of every freight car, whether used in interchange

service or not, with apparatus meeting these requirements (only those freight cars that are fitted with passenger-type brakes being excepted). It has not arbitrarily set a time limit for the accomplishment of this job, however, without giving the carriers every opportunity to show what limitations of physical capacity must be given consideration. Private car lines are indirectly affected, since the railroads are directed to "police" the conversion of such equipment along with their own.

SAVING STEEL: Four railroads formed the testing ground for an investigation of the static and dynamic effects of locomotives of various types operating at a wide range of speeds over short-span steel bridges, and the resulting report of the research staff of the A. A. R. Engineering division is the basis of an article on page 1014. The data obtained have led to the conclusion that lower impact values can safely be used in bridges of this class, bringing about a substantial reduction in the quantity of steel required. Again the industry has achieved practical results from continuously progressing research, even though it frequently fails to catch the attention of sensation-seeking commentators who sometimes lecture the railroads for their "backwardness" in such endeavor.

ELECTRICS' BEGINNINGS: Fifty years ago three eastern railroads—the New Haven, Baltimore & Ohio, and Pennsylvania—began at almost the same time to use electric power in place of steam in regular operations. An article on page 1018 describes and illustrates the three installations, as well as some other pioneer experiments in railroad electrification. The B. & O.'s was the first application in trunk line service, but some significance may be attached to the fact that the two roads that began electrified suburban operation a half century ago now operate substantial mileages of heavy-duty main line with electric power.

O. D. T. FUNDS CUT: The O. D. T. will have to get along in the next fiscal year with less than half the money it had to spend this year, if the provision made for it by the House appropriations committee becomes law. As reported in this issue's news columns, this action did not reflect any very general dissatisfaction with the O. D. T. or its director—in fact, the comment was all to the contrary—but was taken in response to the changed conditions resulting from the nation's shift from a two-front to a one-front war. In the course of his testimony before the committee, incidentally, Colonel Johnson made it clearer than ever that he, at least, has no illusions about the practicability of rationing travel. "It cannot be done," he said emphatically.

COMFORT VS. ART: The desirability of taking the customers' preferences into consideration, along with the original ideas of the designers and decorators, when new passenger cars are planned, comes in for some down-to-cases editorial discussion.

LEGALITY "NOT IMPORTANT": In Lincoln last week Mr. Wendell Berge again related his now familiar arguments against the "bureau" method of making freight rates. That's not the sum total of the railroads' inequities, however, according to this eminent barrister. The railroads have been carrying on their "overall conspiracy" by many different means, he said, and the mere fact that what they are alleged to have done may have been accomplished by perfectly legal and above-board processes is a matter of no interest at all to this zealous prosecutor, it would appear from his remarks. What worries him most is the railroads' ability to get along together, rather than to spend all their energies—and revenues—in knifing each other in the back. These illuminating expressions came in the course of a hearing in which the carriers asked the Department of Justice to get specific as to the times and places of their alleged illegal conduct.

REDUCING CHARGES: Refundings of railroad security issues in the past year (according to the latest "Monthly Comment" of the I. C. C. Statistics Bureau, reviewed herein) have brought about sufficient reductions in fixed charges to amount to total savings of some \$310 million over the life of the new issues. The intentness with which the railroads have concentrated on improving their credit standing and their ability to face adversity is emphasized by the data in the same publication reviewing the relatively unhappy position of the railroad stockholder, whose dividends, in proportion to net income, are still, on the average, far under the 1939 level.

WORK FOR GO-GETTERS: An editorial herein raises the question whether there is anything positive a railroad's salesmen—that is, its traffic representatives—can do to develop new business when the demands of war ease up, and the answer is a definite rejection of the negative, defeatist attitude expressed in the argument that traffic can't be created by salesmanship. Alert traffic men can exploit the opportunities available in their employer's territory for the development of new businesses and the attraction of more residents, and they can put some punch into their tactics when competing forms of transportation turn on the heat in an effort to take away their most lucrative business.

APRIL NET UP: April's net was a bit more than \$6 million better this year than last, the A. A. R. reports, but the comparative figures for the first four months show 1945 still running behind the previous year. Details appear in the news pages in this issue. The rate of return for the 12 months ended with April averaged 3.96 per cent, in contrast to 4.48 per cent for the preceding comparable period. This April the Eastern and Western district roads, as a whole, reported net exceeding their April, 1944, results, but the roads in the Southern region ran behind.



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Okonite
EXPERIENCE
in design • manufacture
installation
of SUBMARINE CABLE

To handle this 11,999-foot length of Okonite Submarine cable shipped recently to a naval base, a specially-designed, electrically-driven reel was used.

The 23,000 volt cable with 1/0 conductors was 3.5 inches in diameter and weighed 15½ lbs. to the foot. Weight of the cable alone was 93 tons, and the cable, reel and accessories (including A-frames, bearings and lifting beam for handling) had a total weight of 105 tons. The reel was 9.2 feet high and 17 feet wide. Four such

shipments were involved.

For helpful information regarding insulated wires and cables for every electrical purpose, get in touch with Okonite engineers.

The Okonite Company, Passaic, New Jersey.

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RAILWAY AGE

The "Railroad Problem" Reduced to Simplest Terms

The Association of American Railroads has appeared before the Congressional committee considering the authorization of "federal aid" donations for the construction of airports to oppose such use of federal funds; with the further recommendation, if such "federal aid" is granted in spite of this protest, that fees be levied upon the users of these airports to pay interest on and provide for the amortization of such federal expenditures.

A determined and persistent stand by the railroads in opposition to the expenditure of public funds for transportation facilities of whatever kind—where no provision is made for levies on users of these facilities to yield interest and provide for the amortization of the expenditure—is long overdue. The railroads have made such presentations before Congressional and War Department committees in opposition to many proposed toll-free improvements to inland waterways. They have never appeared officially in opposition to "federal aid" for highway construction, and they have seldom opposed grandiose highway projects in state and local jurisdictions, although railroad men, as individuals, have done plenty of unofficial complaining about such ventures before audiences powerless to take remedial action upon them.

The railroads cannot reasonably object to as extensive a development of highway, waterway, and air transportation as customers of these facilities are willing to "carry" by their voluntary payment of compensatory charges—in exactly the same manner that railway service is paid for. The railways not only can but should object to the arbitrary political expansion of other forms of transportation, beyond the point where uncoerced customers are willing to pay for it. The railways should object to such hot-housed expansion of other forms of transportation, not only for the protection of their own legitimate interests, but also for the protection of the public interest in the continued adequacy and efficiency of railway service, which is obviously seriously menaced by the purely political expansion of rival forms of transportation, beyond the range of their inherent economy.

Nor is there any need or reason for the railroads to be timid about raising objection to unrecompensed outlays of public funds for the construction of rival means of transport—or to base their position on a self-interested plea for a "square deal" or "fair play." Instead, the presentation can and should be couched frankly in terms of the public's own interest, possibly somewhat as follows:

"The nation's commerce, agriculture and national defense require continued efficient railroad service fully as urgently as they require improved highway, waterway, and air transportation. We ask you, in your own interest, as you contrive means to develop these other forms of transportation, that you weigh at all times the likely effect of what you do upon the adequate financing of railroad improvements by private capital—and that you take care, in your zeal for other forms of transportation, not to deprive yourselves of the quality and quantity of railroad service which you cannot have if you are going to pay a major part of the cost of other services out of the public treasury and, hence, arbitrarily hand these agencies much traffic which, economically, should move by rail. If you thus discourage the opportunity for profit in the railroad industry, you shut off from us the investment funds without which we cannot keep our service modern and adequate to the nation's needs."

Those who have called the railroads "the backbone of transportation" were, perhaps, striving not only to convey a compliment to the industry but also a hint. A vigorous and unrelenting stand by the rail-

Efficiency
FOR VICTORY

roads on this central issue before all public bodies, national or local and friendly or hostile, which have any phase of it under examination—would not, of course, win immediate acceptance of the railroads' point of view. The cumulative educational effect of persistence in such a course would, however, be large in a relatively short space of time. There are many diffuse and complex aspects of the "railroad problem" which can be attacked piecemeal, each by a specialized educational effort—but all these diverse and complicated issues can be resolved into the relatively simple and tangible question of the adequacy of the railroads' supply of capital, which has the further merit that it states the problem honestly and comprehensibly in terms of the public interest.

Home for Repairs

The badly deteriorated condition of many freight cars in service on the railroads of the United States was officially recognized as of May 10 by the A. A. R. Effective as an emergency measure until further notice, all member roads have been ordered to send to home shops all cars of foreign ownership "requiring extensive repairs due to owner's defects and which cannot be made safe and serviceable for rough freight or higher commodity for one-half of the repair limits for labor on car body (excluding trucks) as specified in Section (b) of Interchange Rule 120." Under this ruling all-steel house cars requiring more than \$130 in labor charges and all-steel hopper or gondola cars requiring more than \$105 in labor charges to place them in safe and suitable condition for "rough freight or higher commodity" will be ticketed home. Older types of equipment have a considerably lower expendable labor limit.

It is doubtful whether even the best-informed car authorities in the country can make an accurate estimate of the total number of cars likely to be affected by this order. All that can be told is that such cars have been running—and giving trouble—in sufficiently large numbers that the order is necessary. The labor limitation before a handling line can forward a car home is within a few dollars of that which many allocate as labor charges on program repairs. Judged by this standard, cars will not be culled out from the inventory which are likely to be at all useful until they have undergone extensive repairs. Even so, the effect of this order upon the national transportation picture is certain to be of great importance in the coming months.

The application of this yardstick will start cars which are badly in need of repairs moving home directly from foreign lines, which now need no longer be concerned with routing such cars home over the delivering and preceding connections. This requirement has encouraged the loading of equipment which was in poor condition in order to get it off line and avert per-diem payments or penalties for misrouting. On the other hand, home cars in poor condition are no longer likely to be loaded and sent off-line in the face of an almost certain return as non-revenue-producing equipment which must, in addition, pay mileage to lines over which it must travel.

This order, in effect, makes each road the judge of all others' bad-order car condition. Within a few weeks it

should be possible to make a more accurate appraisal of the freight-car situation than has been possible for more than three years. It should also be possible to estimate rather well whether or not there are enough serviceable cars in the country to carry the freight load in prospect as the reversal in the flow of heavy military traffic reaches its peak.

Record Rainfall Brings Track Troubles

During May the rainfall over considerable areas of the United States was extremely heavy, being of record proportions in some sections. Since April was also an abnormally wet month in many localities, railroad maintenance and engineering departments have had more than the usual share of water troubles to cope with this spring.

The more spectacular manifestations of these troubles have been many washouts of tracks and bridges and the widespread flooding of railway property, especially in the lower Mississippi Valley. But these are not, by any means, the whole story. Less dramatic, but perhaps even more costly over the long term, are the difficulties that are being encountered in keeping up tracks in which the ballast and roadbed have become thoroughly saturated. Not only does such track require more attention immediately if the line and surface are to be maintained to desirable standards, but the increased rate with which the ballast becomes fouled under extremely wet conditions, along with the softening of the roadbed from an excess of water in the sub-soil, are factors certain to result in higher maintenance costs over a period of time.

Because of these considerations one effect of the extreme weather that has prevailed in recent weeks is to demonstrate the wisdom of a track maintenance policy that gives attention to all the factors involved in securing a track and roadbed capable of shedding water with maximum effectiveness. This requires a free-draining ballast section of the proper depth and other characteristics, supported on a roadbed whose stability has been assured by adequate side ditches, and such other accessories, including sub-surface drainage systems, grouted soft spots, roadbed slabs and shoulder poles or other timbers, where a need for them has been indicated by previous experience. Trackage that has had the advantage of such attention is certain to be less affected by abnormally heavy rainfall than that with fouled or cemented ballast and lacking a roadbed that has been properly drained and stabilized.

It is not meant to imply here that properly-maintained track is not affected by excessive rainfall. In fact, on a number of roads where the policy is to give particular attention to the ballast and to roadbed drainage and stabilization it has been noted with some concern that there has been considerable deterioration of the condition of the track structure as a result of the recent heavy rainfall. However, that track should be adversely affected by record precipitation does not necessarily mean that the maintenance policies are at fault, any more than the washing out of a bridge during a record flood neces-

sarily implies that the bridge was improperly designed. It would be more logical to consider how much worse the condition of the track would be in the absence of a clean ballast section and a free-draining, stable roadbed.

More Civilian Materials

In his latest report on military production, J. A. Krug, chairman of the War Production Board, presents an interesting review of the materials situation, together with predictions of what may be expected generally for the remainder of the year. Although the war may be considered half won, the report declares that the military production task has not been halved. Military requirements have been somewhat reduced by the shift from total war to partial demobilization, and while W. P. B.'s task of furnishing adequate quantities of materiel will be lightened, new and different civilian economy problems are bound to arise.

Emphasis has been shifted from steel, copper and aluminum, as the limiting factors of production throughout most of the war, to acute shortages of cotton and woolen textiles and leather. The reconciliation of military and civilian demands assumes a different aspect because in most instances production capacity will be adequate to fill all war and essential needs, but not sufficient to satisfy all civilian wants. It is probably too early to attempt an evaluation of the situation as a whole, particularly in measuring the magnitude of the recent changes in military requirements and their effect on continuing military procurement and our domestic economy.

Estimates of the amount of metals that will be released by military cutbacks are still tentative, and the effect on total steel production of changes in requirements from forms and shapes used for military products to those used for civilian needs cannot yet be measured, the report says, and similar uncertainties also are present in the manufacture of other metals. Moreover, it is too early to determine whether industry can reconvert fast enough to utilize the full production of certain metal mills or the amount of production which may be lost if they cannot.

W. P. B. anticipates that direct military requirements of carbon and alloy steel will drop from more than half of last year's total shipments to a little more than one-third of a slightly smaller 1945 production by the fourth quarter. The cut in the proportion of military requirements of copper and copper base alloy products is slightly greater. Hence it is anticipated that some steel and copper will be released for non-military use. According to present plans, military requirements of aluminum will be increased temporarily during the third quarter, but prospective expansion in the supply resulting from the reopening of closed plants will release more aluminum for civilian products.

Bituminous coal production for the year ending April 1, 1946, it is estimated, will be 5 per cent less than for the 1944 calendar year but sufficient for industrial needs. Lead probably will be inadequate to satisfy both military and civilian requirements unless present rigid controls are retained. Lumber will continue tight and withdrawals from stocks will no longer make up production deficits.

No relief is in sight for the production of protective coatings and plastics for civilian use because military requirements of chemicals have been increased. The over-all availability of petroleum products is expected to be about the same as in 1944. The total supply of leather is below the average rate of production for last year and military requirements will exceed the 1944 rate, so that leather probably will be extremely tight for some time. One of the most acute situations exists in textiles. Fourth quarter military requirements are much higher than average military use in 1944, with stated military requirements approximating almost 40 per cent of the prospective supply of cotton.

Why Not Ask Passengers?

Entirely apropos of many predictions of things to come, of the development of new materials and their wide adaptation and use to railway transportation after the war, was a critical evaluation of materials as applied to the interior decoration and furnishings of a club car by a number of the passengers of a sleek streamliner during the course of a regular run a few days ago. It was on a cold, rainy afternoon in late spring that the "all-room train" pulled out of its western terminus with the club car already filled to capacity. It was one of those cars without its regular quota of windows and at one end the side walls were decorated with large murals. The radio blared as a salesman from Milwaukee endeavored to read an afternoon paper without the benefit of daylight and with minimum illumination cast by ceiling lights that evidently had been selected for architectural reasons rather than for their lighting efficiency. It was the salesman who with appropriate epithets expressed his frank opinion of the lighting system, and after a couple of highballs, retired to the privacy of his bedroom in another car.

An attractive matron considered herself very fortunate in being assigned a chair in the club car after the plane in which she was traveling had been grounded *en route*, and, as she expressed it, "I really do like traveling by train. Even this windowless section of the club car and this uncomfortable chair have not dampened my enthusiasm; for this is such a relief after flying around in the fog over an airport for two hours and wondering what would happen next."

A tall gray haired professional man from Chicago, after a series of twists and turns, finally succeeded in adjusting his legs under a table that apparently had been designed for a large midget, assumed a more or less comfortable position in a built-in seat facing one of the artistic murals and damned the railway as he sipped a cool drink. "I have never been able to understand," he continued, "why the designer of a club car should consider it necessary to attempt to duplicate the interior trappings and atmosphere of a dimly lighted nightclub. Personally, I like to look out of the window when I'm traveling, and the railway is passing up a good bet when it encourages the use of club cars like this where the passengers can't even get a glimpse of the scenery."

These opinions all were expressed by the several passengers during the first hour of the train's thousand-mile run; they reflect an interesting appraisal of the use and

adaptation of modern materials. After the comments of the housewife and the professional man we realized the advantages to be gained from a seating survey such as the one that was conducted by the Boston & Maine at its North Station in Boston several months ago and designed to reflect the preferences of its patrons. Passenger comfort and passenger preferences are of the utmost importance. New products and modern materials doubtless will play an important part in the development of new passenger equipment and facilities after the war, but it might be well for designers and railway officers responsible for those designs to take at least one trip on a regular run of the train for which the equipment is intended.

"Gold in the Hills"

Frequently, when the railway industry has been accused of lack of modernity in sales methods, the answer has been that selling railway freight service is quite different from selling anything else. The argument is used and, so far as it goes, with irrefutable logic, that, while high pressure salesmanship may induce a housewife to buy a washing machine or a carton of soap she would otherwise not purchase, no amount of honeyed oratory will induce a shipper to forward an additional pound of freight.

To an extent this argument is correct, but it is also specious in that in the post-war period competitors of the railways will again be strong enough to make efficient salesmanship necessary if the railways are to continue to get the lion's share of the business. The argument is also misleading in that there will be ample opportunity, through the industrial and agricultural departments of the railways, to develop new business. While it is true that a shipper cannot be induced to ship one pound more freight than the requirements of his business dictate, it is also true that the traffic solicitor will have opportunity to influence whether the shipper will choose transportation by rail, truck, or possibly airplane.

Also, the location of new industries and new agricultural developments along the line affords a fertile field for the development of new business. Some railways have adopted the plan of taking their off-line traffic representatives over the line at intervals of a year or two to acquaint them primarily with the "product" they sell, but secondarily also with the industrial and agricultural possibilities of their own railway. These men go back to their distant posts and, if so instructed, can be of valuable aid to the industrial and agricultural departments.

From an agricultural standpoint particularly, there are thousands of acres of fallow land awaiting exploitation which would produce railway traffic, as well as build up areas that are now underpopulated. Many of the returning soldiers are farm boys who will wish to return to farm life, and, with government aid, will have an opportunity to buy farms when they get back. This affords the railways, particularly in the West, a chance to promote the development of the territory they serve. The Union Pacific is one of the railways which has realized this and acted early. A booklet entitled "Farm-

seeker's Guide" has just been issued by the department of agricultural development of that railway which gives concise, practical information as to how to buy a farm. Also, it gives data regarding the agricultural possibilities in the territory served by the railway, outlining climatic conditions and suggesting money-making crops. Such booklets, given proper distribution, represent an important factor in long-range traffic "solicitation."

Wasteful Practices in Routing Troop Movements

With the end of the European phase of the war, the railroads are entering a period of the most extensive and difficult troop movement in their entire history, which will tax their available equipment and men to the utmost. Thus far, military personnel has been moved with noteworthy efficiency and with minimum disturbance to a vastly expanded civilian travel—credit for which must go not only to the railroads but to the government's organizations in charge of military traffic, and their policy of distributing troop movements evenly among the carriers, thus avoiding congestion on any one line. It is still possible, however, to devise improvements in the routing of troops to increase the effective utilization of crews and equipment and yet retain the principle of fair division of the traffic.

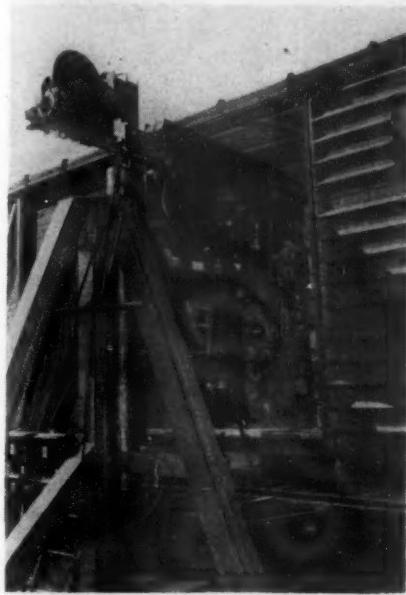
There are instances throughout the country where troop movements are prescribed in a manner which is wasteful of power and labor. For example, at one place in the Southwest frequent movements of troops occur over a distance of 156 miles comprising three railways, requiring the use of three crews and three locomotives, while one direct line, requiring only one crew and one locomotive, is available. In another instance, the originating railway frequently hauls the troops to a junction with another line only 10 miles away, when the crews and locomotives could give much greater service to a more distant point on the originating line if this interchange were not made. More attention to economical routing of troop movements would eliminate such wastes as this, while at the same time giving reasonable heed to the principle of equitable division of the traffic.

There is implied here no criticism of the Western Military Bureau, the Military Transportation section of the Car Service division, or the traffic officers of the armed forces. They cannot be expected to know all of the peculiar local transportation situations in the nation. Responsibility for the continuance of such practices lies with the passenger traffic and operating officers of the railroads who should inform those in charge of the routing of military trains of these geographical peculiarities.

Confronted with what promises to be the most difficult passenger transportation problem of their entire history, the railroads need to take every possible step to secure the maximum utilization of men and equipment. The responsible traffic and operating men can help the railroads and the nation by informing the various military routing bureaus of uneconomical routing practices, and by insisting that they be eliminated.

A. W. P. A. Seeks Tie-Handling Equipment

\$50,000-campaign authorized to develop most efficient means for handling crossties from forest to the track



Southern Wood Preserving Company's Crosstie Unloader with Boom Extended into Box Car

WITH the object of reducing costs and providing more efficient means of handling crossties from the woods, through treating plants to their destination, the Executive committee of the American Wood-Preservers' Association has appointed a special committee to investigate the handling of forest products. The committee has been charged with making a complete survey and analyzing existing methods of loading and unloading ties in the field; unloading at treating plants from open, box and special tie cars; investigating methods and equipment used in stacking crossties for seasoning; loading and unloading trams; loading treated ties for shipment, and consideration of the types of freight train cars best suited to this purpose.

Plans Well Formulated

The special committee has been organized and plans are now well under way for a complete survey of all types of tie-handling equipment now in use. Later, if it is considered necessary to employ the services of engineering talent from outside the industry, a vigorous campaign will be launched to solicit a \$50,000-fund to be contributed by wood preserving companies, tie producers and

railroads to develop efficient types of equipment for all phases of tie handling and transportation.

Suggested by Railway Officer

The A. W. P. A.'s recent action originated with D. C. Curtis, chief purchasing officer, C. M. St. P. & P., at whose suggestion a delegation of four members of the association, including G. C. Hannaway (T. J. Moss Tie Co.), S. S. Holmes (Indiana Wood Preserving Co.), A. E. Larkin (Republic Creosoting Co.), Leonard Perez (Wood Preserving Division, Koppers Co.), and H. C. Youngs (Iowa Wood Preserving Co.), waited upon the executive committee on October 18, 1944, with the suggestion that action should be undertaken by the association to initiate means of developing more efficient crosstie-handling methods. It was in the course of this discussion that the delegation introduced and read an editorial from the October 14, 1944, issue of *Railway Age* urging the encouragement of research, experiments and tests to bring about the mechanization of one of the most arduous tasks within the tie industry, a task too long left to manual labor.

The personnel of the special committee comprises A. E. Larkin, general chairman, Republic Creosoting Co., Minneapolis, Minn., and 12 members who also will serve as district chairmen. The name of the chairman for districts 1 and 2 has not yet been announced; E. J. Mc-

Gehee, Wood Preserving Division, Koppers Co., Pittsburgh, Pa., districts 3 and 4; W. P. Conyers, Jr., Taylor-Colquitt Co., Spartanburg, S. C., district 5; S. C. Braselman, American Creosote Works, New Orleans, La., district 6a; R. H. White, Jr., Southern Wood Preserving Co., Atlanta, Ga., district 6b; Ricker Van Metre, Wyoming Tie & Timber Co., Chicago, Ill., district 7; John S. Penney, T. J. Moss Tie Co., St. Louis, Mo., district 8; Guy H. Ramsey, National Pole & Treating Co., Minneapolis, Minn., district 9; R. C. Johnson, Wood Preserving Division, Koppers Co., Denver, Colo., district 10; R. E. Meyers, International Creosoting & Construction Co., Galveston, Tex., district 11; William E. Doan, Forest Products Treating Co., Portland, Ore., district 12a; and G. P. Pond, J. H. Baxter & Co., Los Angeles, Cal., district 12b.

As a district chairman, each committee member will be in charge of a territory based upon Federal Reserve district divisions. In some instances, modifications have been necessary; for instance, districts 1 and 2 as well as 3 and 4 have been combined to form two territories, district 6 has been subdivided into districts 6a and 6b and district 12 has been accorded the same treatment thus resulting in districts 12a and 12b.

Broad Survey in Progress

Under the general plan each district chairman will set up a district commit-



Boom Extended to End of Car and Grapple Lowered Over Ties—The Operator Is Standing in Foreground with Control Box Suspended from His Belt

tee comprising experienced technical men within his district and representing railroads, commercial treating plants, crosstie producers and others. It is anticipated that these technical committees will make thorough surveys and collect detailed descriptions of all mechanical facilities now in use.

General Committee Meeting

According to present plans, as announced by General Chairman Larkin, the preliminary surveys will be carried on simultaneously in all districts, after which a meeting of the general committee will be called to consider the results.

In the event that this procedure indicates the necessity for employing additional engineering or technical assistance from without the industry, to develop efficient mechanical handling equipment, the general committee will undertake a vigorous campaign to solicit sufficient funds to carry on the work.

Under such a plan, all committee reports, results of studies and designs developed in this manner would be made available to contributors without the payment of royalties. The district chairman would lead in soliciting funds from his district and while all contributions would be voluntary, each district would be assigned a quota. In instances where treating plants within individual districts are members of a parent organization whose head office is not located within that district, solicitation would be referred to the district chairman who could contact the headquarters of the parent company most effectively, with contributions based upon the number of plants involved. If the committee were able to complete its assignment and develop successful tie-handling equipment within the limits of the fund, any unused portion would be returned pro rata to the contributors.



Southern Wood's Tie Unloader with Boom Extended Through Car Door, Discharging Its Load of Six Crossties to a Tram Car

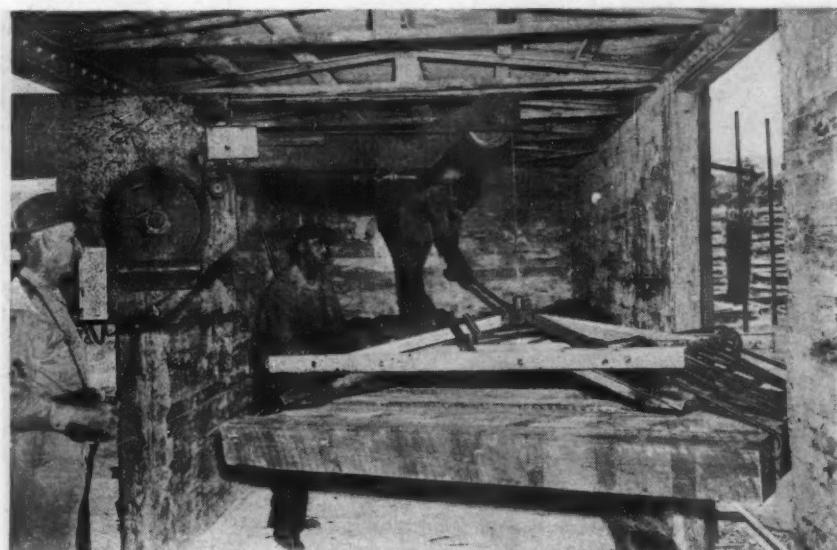
Originating as it did within an aggressive railway organization, it is anticipated that the plan will receive the enthusiastic support of wood preserving plants, tie producers and the railways alike. As a result of the pronounced scarcity of tie handlers, mechanical devices for loading, unloading and handling crossties, particularly at treating plants, have received considerable impetus and several interesting developments are now well under way at various plants throughout the country. These developments include an unloading machine designed by the Southern Wood Preserving Co., Atlanta, Ga., for unloading crossties from box cars, a ma-

chine developed for the same purpose by the American Creosoting Co., the utilization of Ross heavy duty lift trucks for handling and stacking crossties on the Tama, Iowa, yard of the Iowa Wood Preserving Co. and a tie handling device recently placed in service by the Baker Wood Preserving Co. at its Marion, Ohio, plant.

New Unloader Now in Service

An important step in mechanization and in lightening the physical work required, was taken last year at the East Point, Ga., plant of the Southern Wood Preserving Co. by the development and installation of a mechanical device for unloading crossties from box cars. Here, as at practically all other crosstie treating plants, the shortage of crosstie carriers was extremely acute. Locomotive cranes were pressed into service to handle the ties from box cars to seasoning stacks, but the task of moving the ties to box car doors and arranging them in groups suitable for handling by crane, made the operation slow and laborious. It was to relieve this situation that the new mechanical unloader was built; and, after having been in service for several months a similar machine with slight modifications is now being built by the Link-Belt Co., for use at Southern Wood's Chattanooga, Tenn., plant.

This unloading machine comprises an integral part of Southern Wood's prospective tie-handling system which, when completed, will not only remove crossties from box cars but conveyors also will carry the ties through a mill where, after sorting and the application of anti-splitting devices, the ties can be moved on to a seasoning yard where



Boom Retracted, Load of Crossties Swung to the Doorway Just Before Moving Load Forward and Out of Car

they will be stacked by another mechanical device. During its period of limited operation, pending the completion of the entire tie-handling system, unloading has proceeded at a rate of approximately four ties a minute in removing the ties from box cars and transferring them to tram cars on an adjacent track. This rate may possibly be accelerated to six ties per minute after unloading gangs have been thoroughly trained and the mechanical unloader is used in conjunction with the remainder of the handling and stacking units.

Description of Unloader

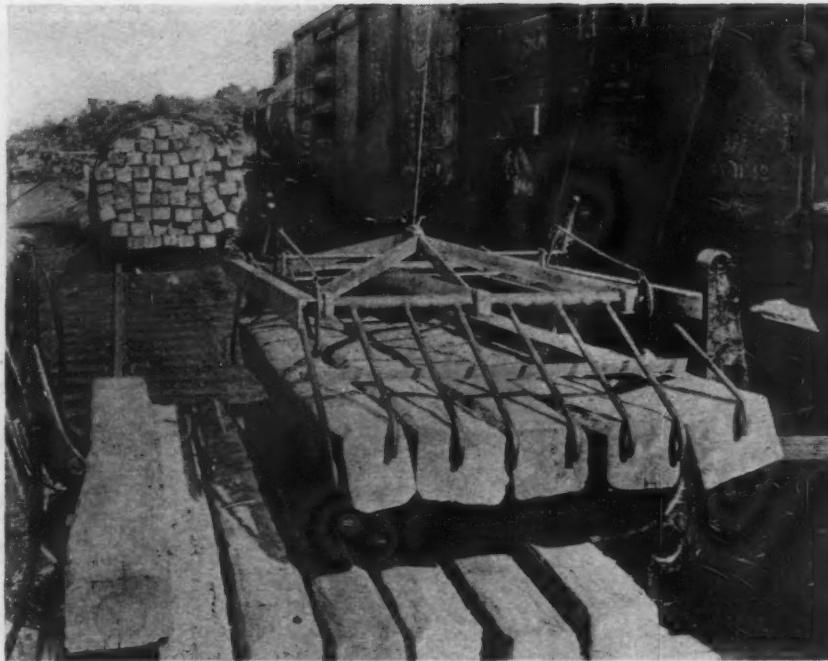
Southern Wood's mechanical unloader comprises an electrically operated machine which is mounted on a horizontal steel boom that in turn is pivotally supported by a steel frame which is anchored to a concrete foundation on one side of the unloading track. The boom is revolved on roller bearings by hand, and suitable vertical adjustment is provided to compensate for the varying heights of cars and their loads. The boom is long enough to reach to either end of box cars and is racked backward and forward on roller bearings by means of an electric motor drive. A second electric motor, mounted on the outer end of the boom, operates a hoisting drum and a steel cable which runs over a sheave at the opposite end of the boom and is connected to a grappling device comprising a series of hooks designed to pick up groups of ties and to release them automatically as they are deposited.

Unloading Procedure

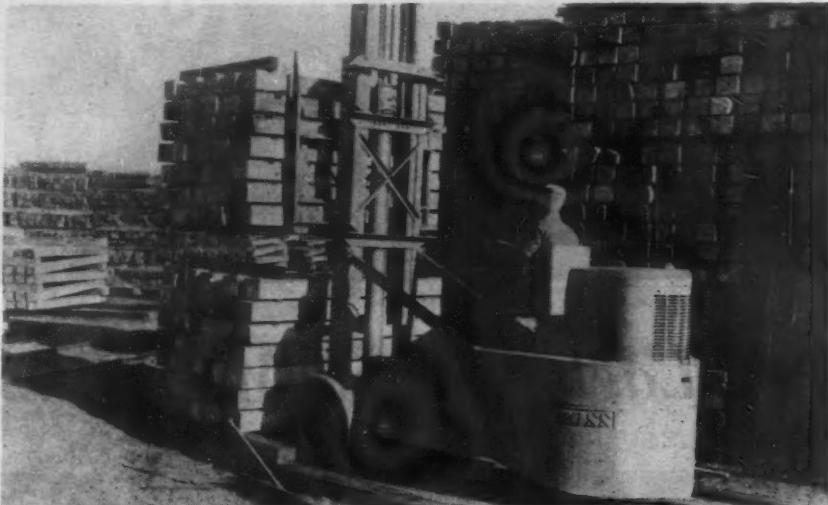
In unloading, a box car is spotted with its door opposite the machine, the boom is swung into the doorway and anchor chains are fastened to hold the unloader firmly in position. After the grapple hooks have been set over the ends of the ties, the operator, standing at the car door, starts the hoisting motor which raises the load. The operator stands in a position that commands a view of operations at all times and both hoisting and boom-racking motors are actuated from a control box attached to a belt worn around the operator's waist.

After the load is hoisted clear of the remaining ties in the car, the boom is racked backward so that the load can be swung through an arc and into position for discharging through the car door opposite the unloader base. At this point the boom is racked forward to swing the load clear of the car, after which the ties are lowered to tram cars and released. The boom is retracted again, swung into hoisting position and the process is repeated until the car has been unloaded, after which the empty car is removed and another loaded car is spotted in unloading position.

These Crossties Were Stacked by a Ross Carrier Company Lift Truck



Load Deposited on Tram Car Automatically Releases the Grapple and the Machine Again Is Ready to Begin the Unloading Cycle

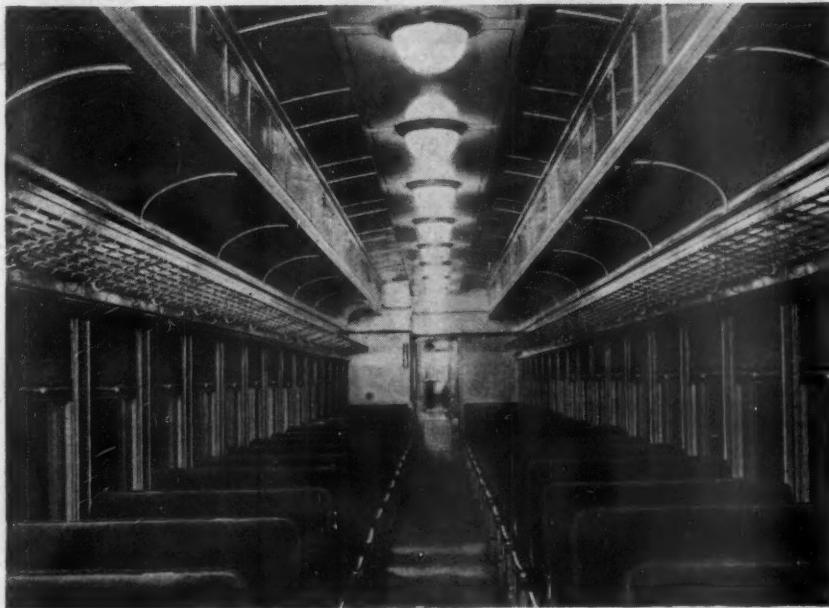


A Lift Truck of the Ross Carrier Company, Stacking Crossties on the Tama, Iowa, Seasoning Yard of the Iowa Wood Preserving Company





Lackawanna Modernizes Coaches



Fifteen 62-passenger coaches for main-line trains completely overhauled and redecorated — interior appointments in keeping with modern coach design

THE Delaware, Lackawanna & Western has recently returned to service 15 completely modernized and redecorated coaches the work on which was done at the Wilmington, Del., plant of the American Car and Foundry Company. The coaches embody the usual refinements, interior appointments and comforts of the modern streamliner coach and are being used on Lacka-

wanna main-line passenger trains between New York and Buffalo, N. Y.

When the cars were shopped the interior facilities and equipment were removed, including electrical and air conditioning equipment. After the cars were stripped and paint removed down to the bare metal every part was thoroughly inspected for corrosion or damage and the necessary repairs were made.

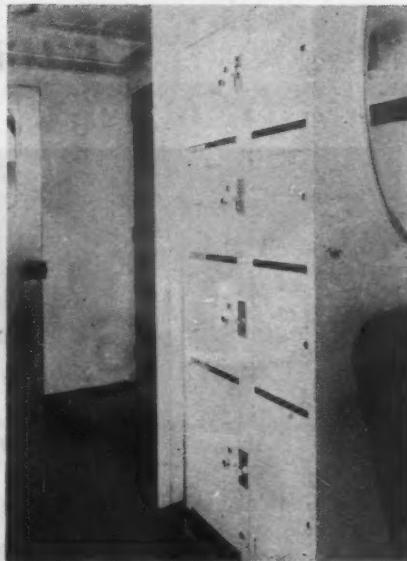
These cars have an inside length of 65 ft. 0 3/4-in., divided by safety glass



women's wash room and directly across the aisle is the powder room, which is decorated in pleasing green with a rust colored pinch-pleated serge drape at the entrance. In the powder room is a wash basin and a black Cafelite vanity table with mirror above, well lighted by a Lumiline fixture at the top, and a vanity chair covered in rust leather.

Tubular design basket racks are satin finish aluminum, anodized to match other appointments and carry serviceable individually-controlled lights over each seat.

The coaches are all air conditioned and the existing clerestory automatically forms a spacious low-pressure duct for the conditioned air which is evenly distributed through the combination aluminum air diffusers and light fixtures in the center ceiling. The floor is covered with harmonizing marbleized rust color linoleum with 1 1/2-in. black stripes to define the aisle. On all end partitions is an oval mirror which sets off the extruded



aluminum satin finish end doors. The exterior of the cars is finished in the conventional dark green with a note of contrast added in the double glazed aluminum sash which were given a scratch brush finish. The trucks, brakes and running gear were completely overhauled, thus making the cars practically the same as new equipment.

partition, into two sections 42 ft. 10 in. and 22 ft. 2 1/4 in. The former section has a seating capacity of 44 persons and the latter, 18 persons. The smaller of the two comprises the smoking section in which are also located the men's saloon, switch locker and eight pay luggage lockers. The larger section contains the women's saloon and powder room—on opposite sides of the aisle at the end of the car. Except for a difference in ceiling height at the men's end of three of the cars—due to differences in the type of air conditioning equipment—the cars are identical as rebuilt.

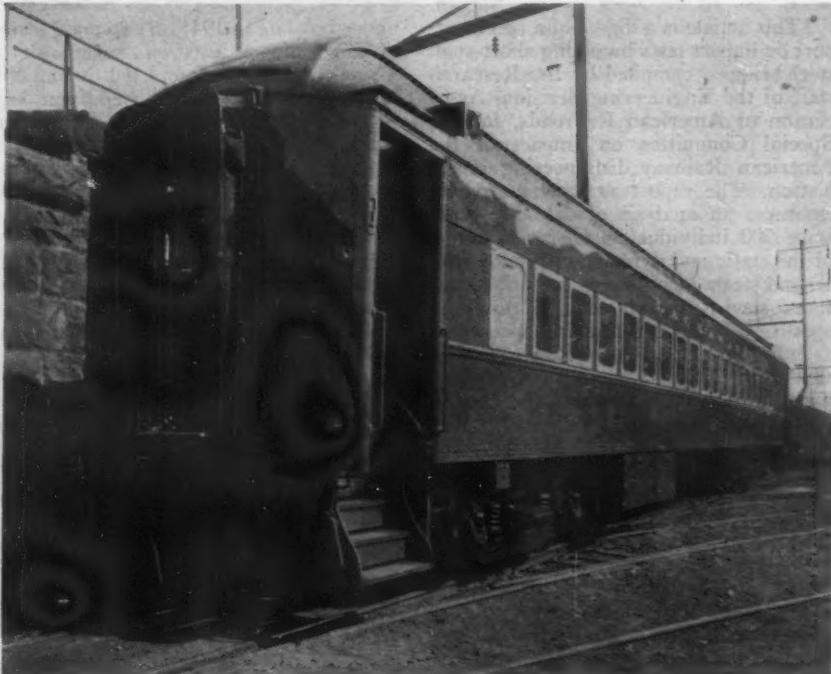
Restful shades of green, rust, cream and gray, highlighted by satin finish aluminum moldings, end doors, basket racks, mirrors, seat ends and lighting fixtures attractively decorate the coaches. The wainscoting of a soft reseda green blends into the light moss green pier panels and facia area and forms a background for the comfortable individual reclining, revolving seats upholstered in rust frieze mohair. Curtains of a greenish gray mottled pattern harmonize with the soft side wall treatment and soft cream ceiling.

An innovation in each coach is the group of eight pay lockers located at the smoking end and opposite the men's wash rooms. This is believed to be the first installation of such lockers in railroad coaches. They will be appreciated particularly by passengers who desire to check coats and hand luggage, retaining the key for the entire trip, in preference to leaving them in the coach baggage rack while they are in the dining car or other cars in the train.

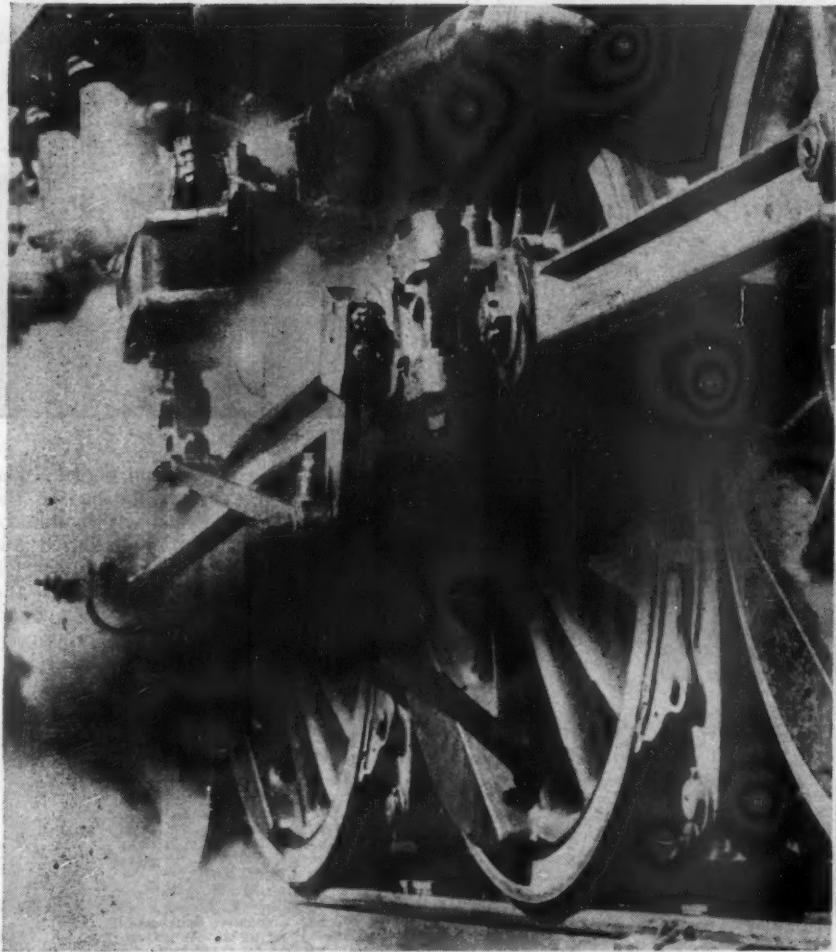
At the other end of the car is the

Partial List of Materials and Equipment on the D. L. & W. Modernized Coaches

Self-tapping machine screws	Parker-Kalon Corp., New York.
Insulation	Gustin-Bacon Mfg. Co., Kansas City, Mo.
Partitions and doors	Haskelite Mfg. Corp., Grand Rapids, Mich.
Door catch; window sash	The Adams & Westlake Co., Elkhart, Ind.
Luggage lockers	American Locker Co., Boston, Mass.
Aluminum moulding	Aluminum Co. of America, Pittsburgh, Pa.
Flooring	Tuco Products Corp., New York.
Air outlet and light fixture	E. A. Lundy Company, New York.
Lighting fixtures	Safety Car Heating & Lighting Co., New York.
Mirror lights	General Electric Company, Schenectady, N. Y.
Lavatory	Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.
Mirrors	Crane Co., Chicago.
	Dayton Mfg. Co., Dayton, Ohio.



Practical Research Shows Way to M



Impact Presents One of the Serious Problems Confronting Bridge Engineers

[This article is a digest of a recent report on impact tests involving short-span steel bridges, compiled by the Research staff of the Engineering division, Association of American Railroads, for the Special Committee on Impact of the American Railway Engineering Association. The report as a whole, which embraces an analysis of data involving some 900 individual tests, gives results of the static and dynamic effects of Diesel and steam locomotives operating over short steel spans at a wide range of speeds. The report has been presented as information to the A. R. E. A. The summary which follows deals primarily with the objects, procedure and conclusions of the study.—Editor]

TO determine the static and dynamic effects of Diesel-electric and steam locomotives operating over short-span steel bridges at a wide range of speeds, looking to the most economical design and most effective use of such spans, the research staff of the Association of American Railroads, acting for the Special Committee on Impact of the American Railway Engineering Association,

undertook late in 1941 an extended series of field impact tests on such bridges. These tests, while completed during the spring of 1943, were reported upon only recently after many months of careful study and analysis.*

As a result of the tests, impact formulas for short steel spans are proposed which, aside from being the first to be based on and substantiated by measurements of actual stresses obtained under representative service conditions using electro-magnetic strain gages, permit a more economical design, with a substantial saving in steel over previously accepted standards. These formulas have been presented to the A. R. E. A. as information, to be considered for adoption by its Committee on Iron and Steel Structures.

Present impact rules of the A. R. E. A. for the design and rating of short steel spans, which it is proposed be superseded by the new rules, are based on theoretical values, arising from the fact that previous testing equipment has been affected so adversely by vibrations set up

* A detailed report on these tests appears in A.R.E.A. bulletin No. 450.

by track and locomotive conditions that it has been impossible to obtain reliable test data on short steel spans for all of the various impact factors involved.

The results of the recent tests are of interest to railroad engineers, first because these were the initial stress tests to be made in this country on short-span bridges employing electro-magnetic strain gages, which produce measurements unaffected by the inertia common in earlier instruments; second, because the high speeds involved in the tests give information of value as to stresses under present-day train operation; third, because the tests afford a comparison between the effects of locomotives with and without the so-called hammer blow resulting from the unbalanced weights on the driving wheels of steam locomotives; and, fourth, because of the generally lower impact values found to prevail in short-span steel bridges than previously figured, with the resulting saving possible in steel.

Tests on Four Roads

Since the maximum stresses in short spans are not affected by tender or car wheel loads, the Committee on Impact decided that the tests could be made under regularly scheduled trains. For the tests, it then selected a group of single-span deck girder and beam bridges on the Chicago, Burlington & Quincy, the Atchison, Topeka & Santa Fe, the Chicago & North Western and the Illinois Central. An effort was first made to select two bridges of the same length and same steel design on each railroad, one having an open deck and the other a ballasted deck, but since bridges meeting all of these requirements were not to be found in high-speed territory, it was necessary to make the tests on short bridges of various capacities and span lengths. Therefore, four short open deck bridges varying in overall length from 20 ft. to 34 ft., and three short ballasted-deck bridges varying in overall length from 22 ft. to 32 ft. 6 in., were selected, two on each road, except on the Illinois Central, where only one span was chosen. The capacities of these bridges under present A. R. E. A. design stresses and rules for impact varied from E-50.9 to E-111.2 for the open-deck spans and from E-53.9 to E-103.0 for the ballasted-deck spans.

The maximum rating in each instance was for the Burlington bridges, the other five spans rating about what would be expected on the average railroad of the country.

The tests on each span were made with a battered rail joint in one rail at, or close to, the center of the span, and without a battered rail joint on the span. Additional tests were made on two of the spans equipped with $\frac{1}{2}$ -in. rubber fabric pads placed between the crossties and the tie plates. Still other tests were

to More Economical Bridge Design

Tests conducted on short beam and girder spans by A. A. R. staff indicate that lower impact values can be used in these structures, with substantial savings in steel

made on another span with a welded rail joint in one rail at the center of the span. Stresses were measured at the center of each span under regularly scheduled trains operating at various speeds ranging from approximately 5 m.p.h., which was considered as static loading, to a maximum speed of 100 m.p.h. for the Diesel locomotives and 85 m.p.h. for the steam locomotives. In all, stresses were measured under 256 Diesel locomotive runs and 644 steam locomotive runs, a total of 900 locomotive runs on the seven bridges. The locomotives involved were rated from E-30.8 to E-68.7 and included many classes of power.

It was recognized at the outset that to a large extent the impact produced in short-span bridges is the result of complex vibrational phenomena related to track and locomotive conditions which cannot be determined accurately and standardized for all of the variable conditions occurring in service. It was decided, therefore, that the total impact stresses in these spans were best determined by measurement of the actual stresses in representative service conditions in a sufficient number of test spans under an adequate number of locomotive

runs to assure that maximum impact values would be secured.

Electro-magnetic strain gages were used throughout the tests, with oscillograph recordings for measuring the strains. These strain gages are especially sensitive to strains of low magnitude and high frequency, such as are produced in short steel spans, and are

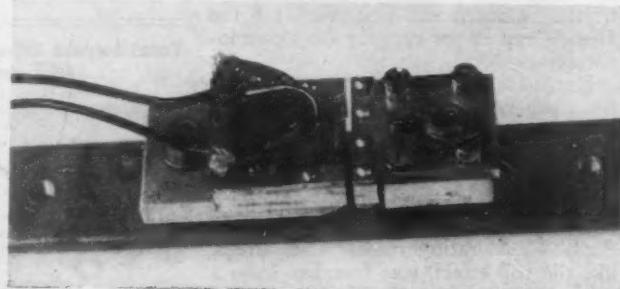
capable of measuring strains of 1/150,000 in. occurring at a frequency of approximately 500 cycles per sec. Because of the high sensitivity of the instruments, extreme care was exercised in calibrating them. In the

tests, the instruments were located at several critical points throughout the span, some of them being kept on the center of the lower flange of the beams or girders for all test runs, while the remaining gages were moved to various positions on the bridge members, such as along the out-

side edges of the lower flanges, the top flanges, lateral bracing, diaphragms, etc.

Lower Static Stresses

A study of the static stresses in the test bridges was made by recording those stresses produced by locomotives crossing the spans at a speed of 5 m. p. h. Except for the Burlington open-deck span, this study revealed that in each span the recorded static stresses were considerably lower than the static stresses calculated on the basis of concentrated wheel loads. In the case of the open-deck spans, these were approxi-



An Electro-Magnetic Strain Gage of the Type Used for Measuring Stresses in the Impact Tests

mately 90 per cent of the calculated stresses, while in the case of the ballasted-deck spans, they were only about 80 per cent of the calculated static stresses.

That these lower static stresses were produced was due probably to the redistribution of the locomotive axle loads under the deflection of the spans, which fact is supported by past experience with locomotive scales, which has proved that there is a redistribution of the locomotive axle loads when the axles change elevations relative to each other. It is also thought that these lower static stresses are due in part to the longitudinal distribution of the concentrated axle loads resulting from the action of the rail as a continuous beam on an elastic support.

The analysis of the tests also showed that the top and bottom flange stresses were in fairly close agreement, indicating that there was sufficient freedom of movement at the end bearings of the spans to prevent arch action. The lower recorded static stresses in the case of the ballasted-deck spans, as compared with those stresses in the open-deck spans, was due in large measure to the



The Equipment Used for Recording the Stresses Measured by the Strain Gages Was Located in a Test House Set Up at Each Bridge Site

fact that ballasted decks provide longitudinal distribution of the wheel loads.

Impact Factors

To secure a more thorough understanding of the total impact effect on the spans, the Impact Committee analyzed the test data to determine the magnitude of the individual increments—locomotive roll, speed, hammer blow, and track irregularities—which constitute the total impact effect.

The impact effect on a span due to the roll of the locomotive, which is caused presumably by the oscillation of the spring-borne weight of the locomotive about a longitudinal axis, produced an increase in stress in the steel under one rail, with a corresponding decrease in stress under the other rail. The maximum stresses were found within a critical range of locomotive speeds, above or below which they decreased in magnitude. This range of speeds varied for each locomotive and for each span. On the open-deck span, the roll effect of the Diesel locomotives amounted to 17 per cent of the recorded static stresses and 23 per cent in the case of the steam locomotives. On the ballasted-deck spans the roll effect amounted to 17 per cent of the recorded static stresses for the Diesels and 19 per cent for the steam locomotives.

Exclusive of the stresses resulting from other sources, a definite increase in impact stress due to speed alone was observed. While impact stress due to speed had been noticed in previous tests, it had never been measured and, as a result, it is not recognized in the present A. R. E. A. rating rules. This stress, like the roll effect, was found to have a critical range of speeds, above or below which it decreased in magnitude. This critical speed range also varied considerably for different spans and types of locomotives. On the open-deck spans, the speed effect of Diesels amounted to 25 per cent of the recorded static stresses, while that for steam locomotives amounted to 35 per cent. On the ballasted-deck spans, the speed effect of Diesels was found to be 35 per cent of the recorded static stresses, while that for steam locomotives was 40 per cent.

The hammer blow stresses, produced by the blow of the unbalanced weights on the driving wheels of the steam locomotives, were calculated. An analytical method was used in making these calculations, which had been verified by extensive counterbalance tests made previously by the A. A. R. at Harvard, Ill.* The maximum hammer blow was found to occur at a speed somewhat higher than those speeds for which the other impact effects were found to be of particular importance. No hammer blow stresses were produced by the Diesels, since they do not have unbalanced weights on their driving wheels.

The track effect, which represents the impact resulting from irregularities in the track surface, battered rail joints and

wheel irregularities, was obtained directly from the test data for Diesel locomotives and was derived for the steam locomotives by subtracting the calculated hammer blow stresses from the total recorded track and hammer blow stresses. Prior to the tests, it was the general belief that the impact on a span resulting from a battered rail joint increased directly with an increase in speed. The results of these tests, however, showed that the impact, in general, due to a battered joint had a maximum value in the relatively low ranges of speeds—from 20 to 40 m. p. h. for the Diesels, and 30 to 50 m. p. h. for steam locomotives—and that it decreased in magnitude above or below these speed ranges.

From the instantaneous stress curves, produced from stresses measured at the instant a wheel struck the battered rail joint, it was observed that a peak stress was developed in the steel at the center of the span at the moment of impact, but that this peak stress did not reach the ends of the span until a fraction of a second later. From these same stress curves it was also noted that the calculated deflection at the center of the span for a given stress produced by static loading was approximately 70 per cent

speeds over a span and the maximum static stresses produced by the same locomotive traveling over the span at a speed of 5 m. p. h., was termed the total impact stress for the span.

Additional Results

From this study, values of the total impact "I" for short-span steel bridges of 20 to 35 ft. in length were formulated into percentages of the actual static stresses. These percentages, where a battered rail joint was involved, exceeded the impact percentages derived from the present A. R. E. A. design specifications in the case of certain bridges under Diesel loadings, but they were considerably lower than the present A. R. E. A. design impact percentages in the case of all of the bridges under steam locomotive loadings. The impact percentages which were formulated as a result of this study, as shown in the accompanying table, are sufficient to provide for the total impact effect.

It should be noted in this table that the impact percentages, based upon the actual static stresses, for both steam and Diesel locomotives are the same for both open and ballasted-deck spans; however,

Total Impact Effects of Steam and Diesel Locomotives on Steel Spans 20 to 35 Ft. in Length, Shown as Percentages of Actual Static Stresses

For Open-Deck Spans	
Steam Locomotives	I = 30 per cent at 10 m.p.h. or under. I = 75 per cent at 50 m.p.h. or over. A straight-line variation for values of I between 10 m.p.h. and 50 m.p.h.
Diesel Locomotives	I = 20 per cent at 10 m.p.h. or under. I = 50 per cent at 30 m.p.h. or over. A straight-line variation for values of I between 10 m.p.h. and 30 m.p.h.
For Ballasted-Deck Spans	
Steam Locomotives	I = 30 per cent at 10 m.p.h. or under. I = 75 per cent at 50 m.p.h. or over. A straight-line variation for values of I between 10 m.p.h. and 50 m.p.h.
Diesel Locomotives	I = 20 per cent at 10 m.p.h. or under. I = 50 per cent at 50 m.p.h. or over. A straight-line variation for values of I between 10 m.p.h. and 50 m.p.h.

greater than that for an equivalent stress produced by dynamic loading. These differences in deflections, which were also present, but to a lesser degree, when a continuous rail was used, obviously will introduce error if impacts are computed from deflections measured under moving loads with a deflectometer.

It was noted that with steam locomotives a relatively constant total impact prevailed throughout all speed ranges—this being due to the fact that, with these locomotives, the hammer blow effect increases with an increase in speed, while the battered rail effect, which is at a maximum at low speeds, decreases with an increase in speed. The Diesels, on the other hand, were found to produce an impact effect at low speeds when passing over a battered rail joint, but, without a hammer blow effect, they produced practically no impact at high speeds. When the battered rail joint was replaced with a continuous rail, a considerable reduction in the total impact was observed under the Diesels, but this reduction was very slight under the steam locomotives. The difference between the maximum stresses produced under a locomotive operating at various

the actual static stresses in the ballasted-deck spans are lower than those in the open-deck spans, which results in a lower impact stress in the ballasted-deck spans. These impact values for steam locomotives are considerably lower than those provided by present A. R. E. A. design specifications, and their use will permit of a more economical design of new structures, with a substantial saving in steel.

Other Observations

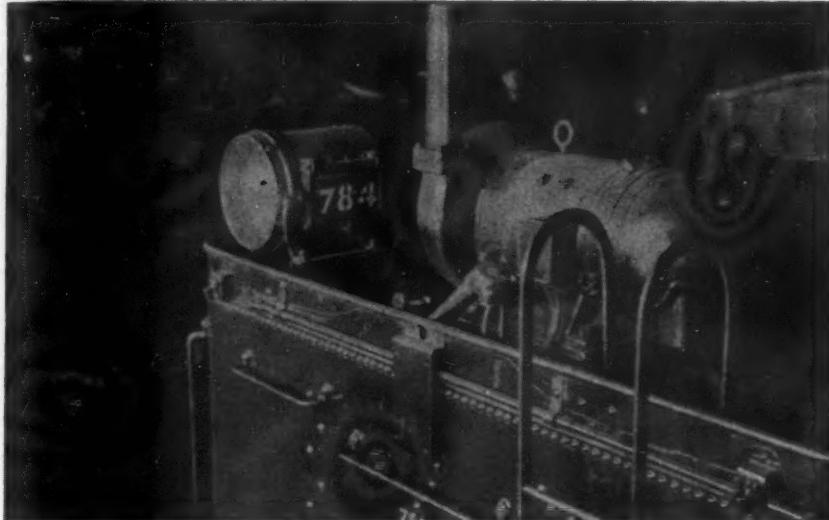
Other interesting observations made during this study relate to the frequency of occurrence of the maximum stresses in each span, the distribution of stresses in beam and girder groups, and the effect of rubber fabric pads and welded rail on the impact values.

As regards the frequency of occurrence of maximum stresses, it was found that only about 10 per cent of the trains passing over the bridges produced stresses amounting to 90 per cent or higher of the maximum stress. This low frequency of maximum stress occurrence

(Continued on page 1021)

* See A.R.E.A. bulletin No. 447, Sept.-Oct. 1944, and synopsis of these tests which appeared in the *Railway Age* for March 31, 1945, page 579.

Jersey Central Goes to Head-End Lighting



12-Kw. Turbo-Generators on the Back of the Tender Supply Trains Up to 13 Cars

SUBURBAN trains on the Central Railroad of New Jersey are in the process of being equipped with head-end lighting. The change will insure constant voltage on the lights while the train is in transit and will relieve the cars of about 4,000 lb. of batteries and generating equipment. The system is limited in that it must be used with locomotives and coaches equipped for this type of lighting, but it represents the ultimate in simplicity and ease of maintenance and will be standard on all Jersey Central suburban runs. Means, developed for supplying power to the train at the terminal, allow for instantaneous change-over from standby to head-end power.

The trains being equipped operate out of Jersey City, N. J., with ferry connections to New York City. There are now 8 locomotives and 26 cars equipped and the ultimate program will include 60 locomotives and 300 cars, of which 40 locomotives and 200 cars have been authorized.

Each car is lighted by eight, center-ceiling, dome-type, 100-watt, lighting units and six 25-watt lights in toilets and vestibules, making a total load of 950 watts per car. Power is supplied to the train by a turbine-driven generator mounted on the tender tank, back of the water hole. On all but ten locomotives these will be 12-kw., 120-volt, Pyle-National machines which will be used on trains up to 13 cars. Tests showed the sets to have a sufficient overload capacity for fifteen cars. Ten locomotives, used only on shorter trains, will have 7½-kw. sets.

Power is carried from the locomotives through the train by a three-wire, 2/0, train line run in 2-in. conduit underneath the car. Jumper connect the three-wire receptacles at the end of each

car, and the receptacles are so made that the No. 2 and No. 3 train lines are connected if there is no plug in the receptacle. This means that the unused receptacle at the rear of the train serves to close the train line loop. Current from the generator flows to the lamps along one of the train lines and on to the rear of the train along the second from where it returns on the third or loop wire to the generator. This arrangement equalizes the voltage to each light in the train at 120 while the voltage at the generator is about 126 depending upon the length of the train.

The generator is protected by fuses, but there is no main switch. Opening a steam valve in the cab puts the generator in operation. Steam for operating the turbine is carried from the locomotive to the tender through Barco flexible couplings.



A Double-Throw Switch and an Isolating Transformer Supply Battery-Charging Current Or 120-Volt A. C. Power to the Terminal Charging Lines

Ingenious arrangement of connections permits instantaneous change-over from a. c. station power to d. c. train power

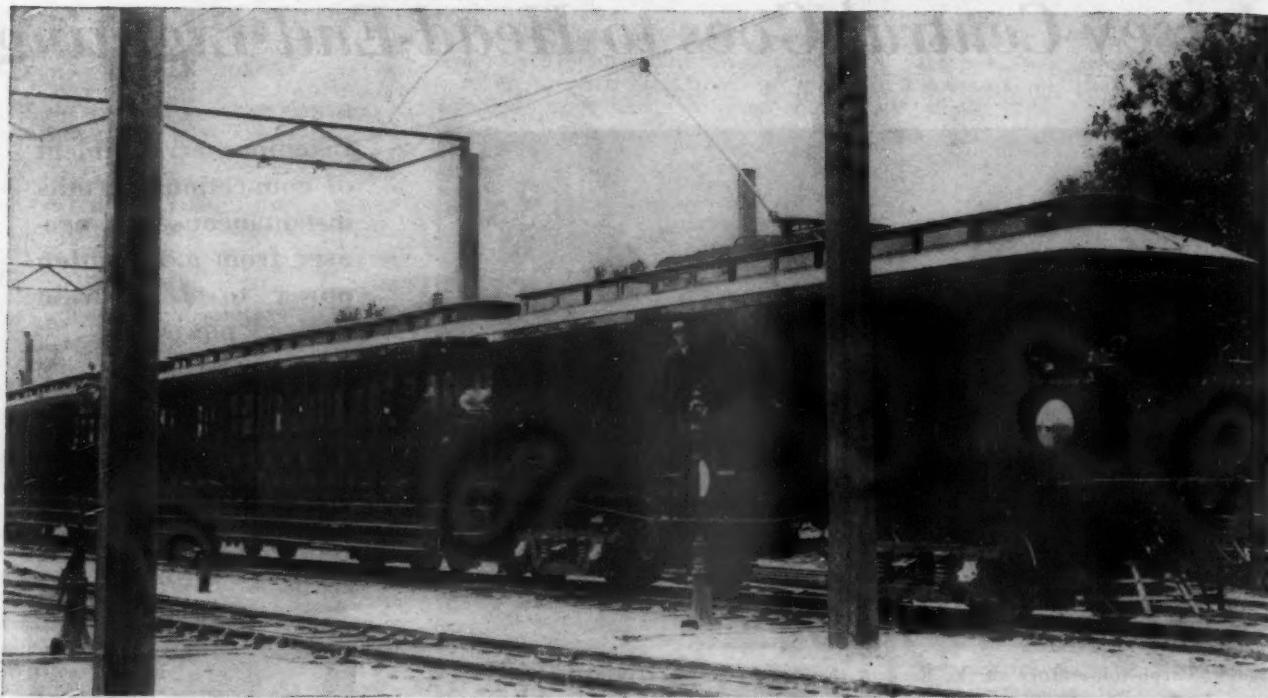


A Special Jumper Completes the Connection Between a Charging Line and a Train

When the trains are loading in the terminal, they are lighted from 120-volt alternating current power. This is supplied through a one-to-one isolating transformer located near the bumper block at the end of each track. The yard battery charging lines are made to serve for carrying this power to the trains as well as for battery charging. A double-throw switch adjacent to the transformer serves to connect the charging line either to the direct-current charging circuits or to the 120-volt a. c. power.

When the a. c. power is being supplied to the charging lines, a special jumper serves to connect the rear receptacle on the train with the charging line terminal. The plug on the special jumper is so designed that it holds the loop circuit open and alternating current is fed directly to the lights on train lines No. 1 and No. 2. With a. c. power being supplied in this manner, a locomotive may be connected to the front of the train and its generator energized. Since the generator feeds train lines No. 1 and No. 3, there is no interference with the a. c. power.

Just before departure of the train, a station electrician disconnects the charging line which cuts off the a. c. power and then pulls the plug from the rear of the train. This closes the loop and the train receives power from the turbine-generator on the locomotive.



International News Photos, Inc.

Motor Baggage Car and Trailers as Used on the Nantasket Branch of the New York, New Haven & Hartford in 1895

ELECTRIC traction celebrates a half century of operation this year. Fifty years ago in 1895 three railroads, the New York, New Haven & Hartford, the Baltimore & Ohio and the Pennsylvania, replaced steam with electric power, credit for "famous firsts" being claimed for two of them on different counts.

The Boston Post in an article appearing June 28, 1895, under the title "Fate of Steam" states, "The use of electricity as a motive power in place of steam will begin for regular service on the Nantasket branch of the New York, New Haven & Hartford railroad today. The event is one in which the officials and employees of that great corporation as well as the General Electric Company, which had the fitting of the line to be operated with the necessary electric equipment, express the deepest interest, it being regarded as a pioneer experiment to test the value of a new power as compared with the one relied upon so long. Railroad men and electricians throughout the world are also giving it close attention, claiming the result will go beyond anything yet done to determine the practical worth of electricity as a substitute for steam on broad-gauge roads."

The rolling stock on the Nantasket branch consisted of ten motor cars, six "open" and four "closed," and a number of trailers. Each motor car weighed 60,000 lb. and was designed to handle three or four trailers. Power was supplied from a power plant installed for this purpose which was equipped with two tandem compound Greene engines

Fifty Years of Electric Traction

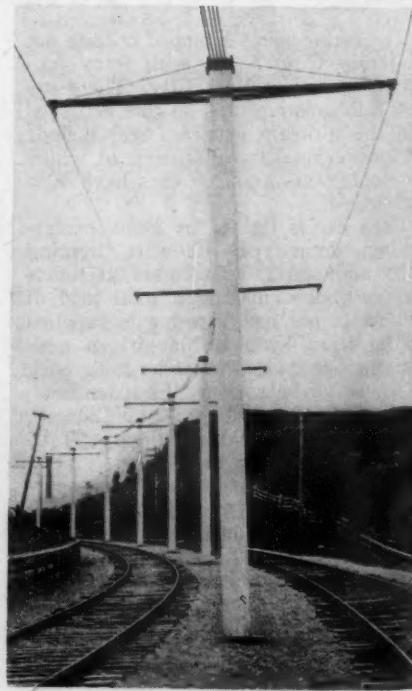
Three railroads replaced steam with electric motive power in 1895

operating at 110 r.p.m. and rated at 1420 hp. each. The generators were rated 500 kw. each and the station voltage was nominally 700 volts.

The original contact system consisted of an overhead 330,030 c. m. wire of figure-eight section supported by wood poles and double brackets, the distance between the centers of the two tracks being 15 ft. The poles which were of sawed, hard pine were the only insulation between the wires and the ground. The overhead wire was later replaced by a third rail.

The original Nantasket line was later extended and from this beginning, a number of applications were made leading up to the present 11,000-volt a. c. electrification between New York and New Haven, Conn., employing locomotives capable of exerting up to 9000 hp. Historical facts concerning the early developments are ably presented in a paper

Type of Overhead Construction First Used on the Nantasket Beach Branch of the New Haven. Both the Contact Wires and Feeders Were Supported on Sawed Pine Poles Without Other Insulation



by Sidney Withington, electrical engineer of the New York, New Haven & Hartford appearing in Bulletin No. 26, published October, 1931, by the Railway and Locomotive Historical Society.

Also in 1895, on July 22, the Pennsylvania electrified its Mt. Holly branch consisting of eight miles of double track with overhead contact system from Mt. Holly, N. J., to East Burlington, N. J.

The electric motive power consisted of three combination baggage-and-passenger motor cars each capable of drawing a standard P. R. R. coach at a speed of from 45 to 60 miles an hour. The motors were built and installed by the Westinghouse Electric & Manufacturing Company. One car was equipped with four 50-hp. railway motors and geared for a speed of 45 miles an hour. The other two cars were equipped with one 75-hp. motor on each truck. These motors were capable of delivering 100 hp. and the two cars were geared respectively for 45 and 60 miles an hour.

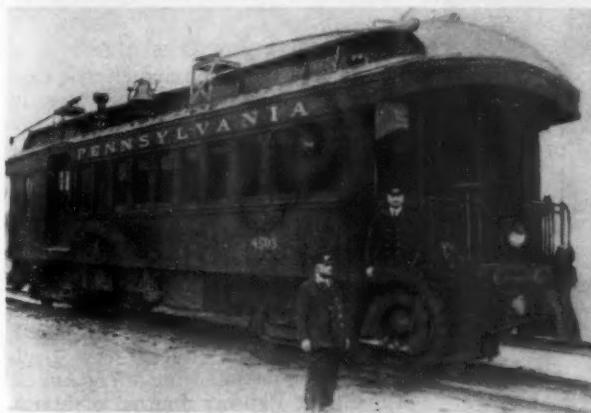
The power plant, located at Mt. Holly, employed a 300-hp. Climax boiler and a Westinghouse, compound engine, direct connected to a 225 kw., 8-pole, 250

Edison's Electric Locomotive and Experimental Track at Menlo Park in 1880

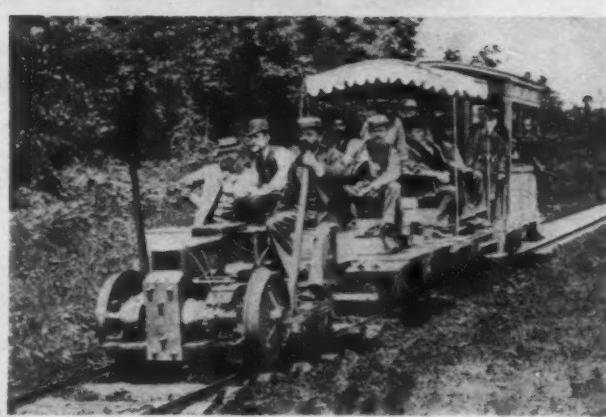
r. p. m. generator. The trolley wire was No. 00 hard-drawn copper, suspended 22 ft. above the track by span wires supported by chestnut poles on each side of the track. There were two 500,000 c. m. feeders, one running the full length of the line and the other about six miles. Rail joints were bonded and two supplementary wires alongside each rail were used for the return circuit.

There are now 671 route miles and 2,231 miles of track in the Pennsylvania's 11,000-volt a. c. Philadelphia, Pa.-Harrisburg, Pa.-Washington, D. C.-New York, N. Y., electrified lines and the rolling stock consists of some 300 electric locomotives, 385 multiple-unit cars and 47 trailers.

The Baltimore & Ohio which also

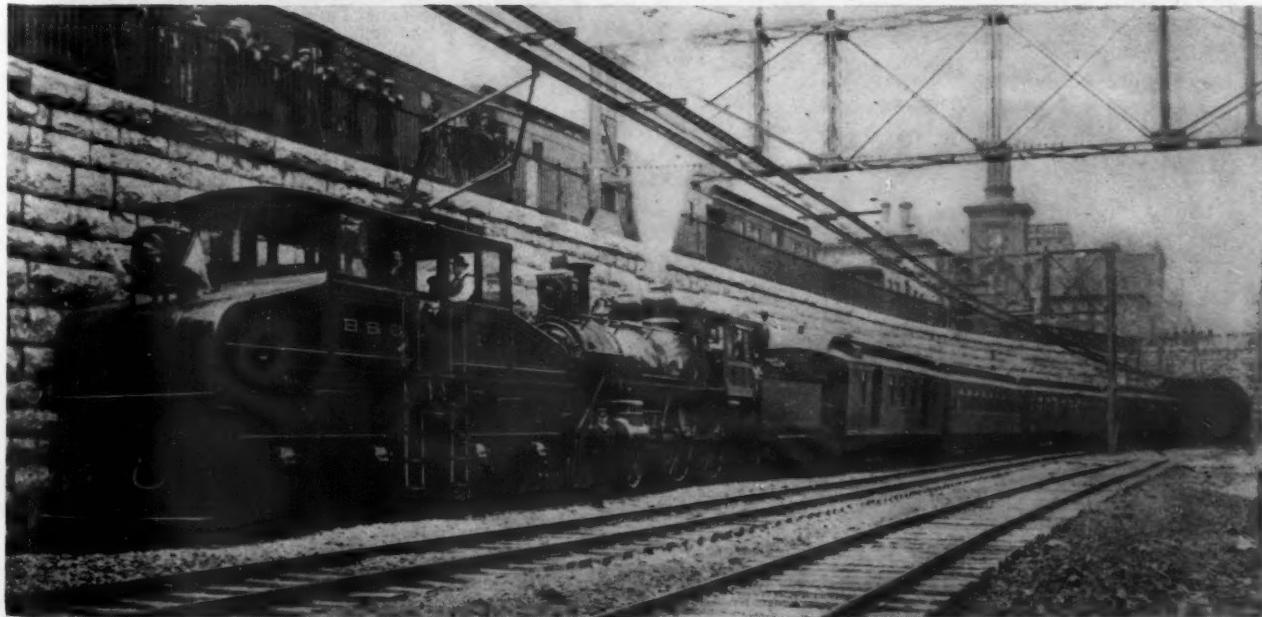


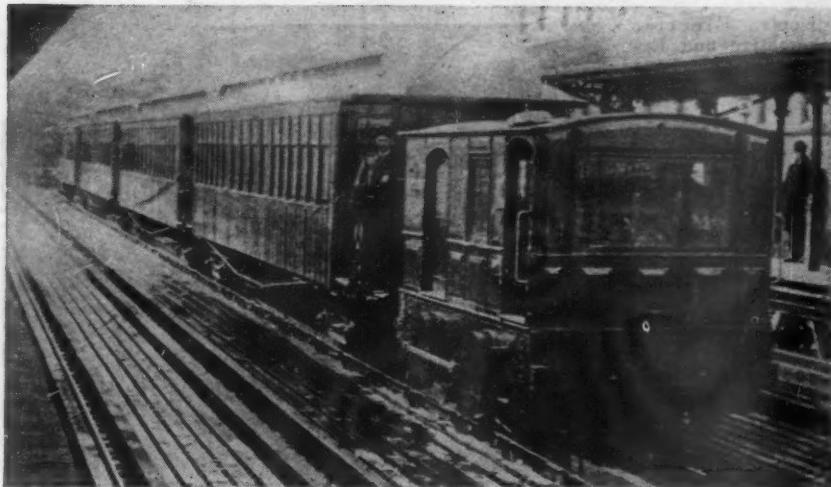
(Left)—One of the First Electric Motor Cars Used on the Mt. Holly Branch of the Pennsylvania in 1895. (Below)—Electric Locomotive No. 1, Built in 1895, Pulling a Train with Its Steam Locomotive Out of the Baltimore & Ohio Tunnel in Baltimore



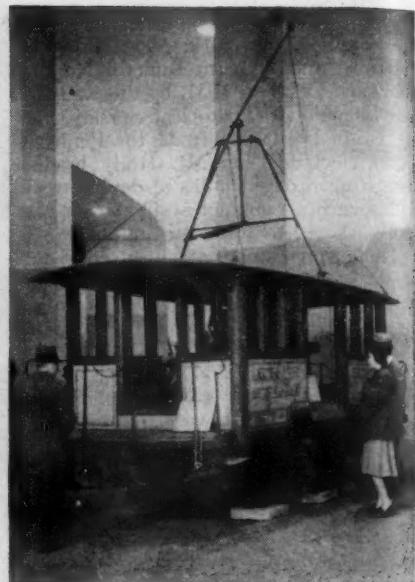
electrified a steam railroad in 1895 bears the distinction of being the first railroad to use electric locomotives in trunk line service. That portion of the Baltimore & Ohio which was electrified and which is still in operation lies within the city limits of Baltimore and is a part of the so-called Belt-Line, extending from Camden station on the west to Waverly interlocking tower on the east, a distance of 3.75 miles. There are eight tunnels in this zone, the longest being 7,300 ft. The tunnel contains two tracks and a part of the line outside of the tunnels is four-track. The average grade is 0.9 per cent and the ruling grade is 1.5 per cent. The electric locomotives are used to haul trains including the steam locomotive eastbound up the grade and return light down grade, the steam locomotives handling the trains in this direction.

The first trial trip was made on June 27, 1895. The Baltimore Sun of Friday, June 28, 1895, states: "Yesterday, an informal test of this 100-ton machine was made. There is no uncertainty about it now—it pulls. At 11 o'clock yesterday morning (June 27, 1895) the

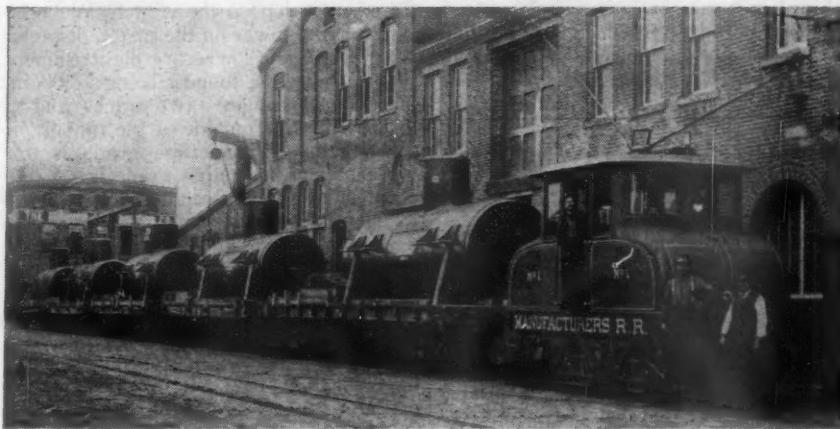




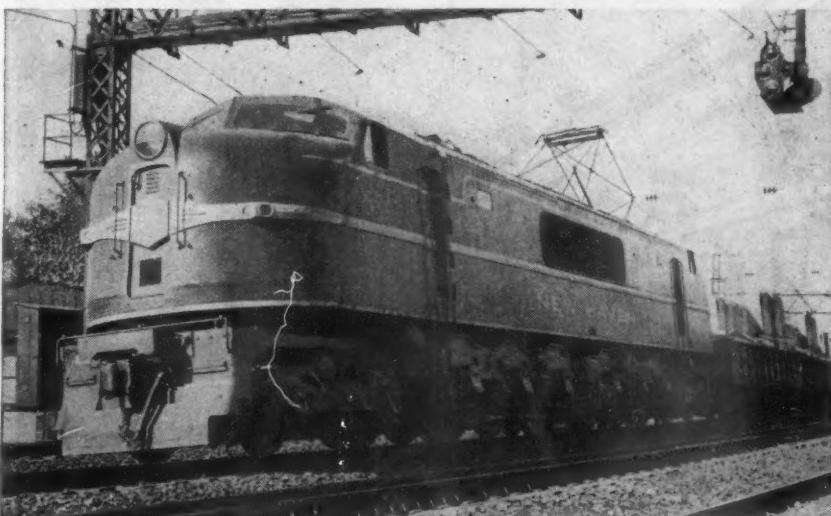
The Daft Locomotive Benjamin Franklin Being Tried on the Ninth Avenue, New York Elevated, Between 14th and 50th Streets (1888). Earlier Daft Locomotives Were Built and Tested on the 12-Mile Saratoga, Mt. McGregor and Lake George in 1883, and on the New York Elevated in 1885



First Electric Freight Locomotive in the United States Used on the Ansonia, Derby & Birmingham, a Street Railway Line, in 1888. The Locomotive Is Shown as Exhibited at the New York World's Fair, 1939-40



Manufacturers' Railroad Locomotive, New Haven, Conn. Before Being Used by the Railroad This Locomotive Was Exhibited at the Chicago World's Fair in 1893



One of the New Haven's Electric Freight Locomotives Placed in Service in 1942. It Has a Continuous Rating of 4,860 Hp. and a Maximum of 9,100 Hp.

current was turned on and electric locomotive No. 1 . . . was pushed from its position on a side track by steam locomotive No. 820 over crossovers and through curves to the cut at Camden. . . . The run to North Avenue was made in seven minutes; returned to Henrietta Street, and a second trip was made at 1:30 p. m.; speed of twenty miles per hour."

The first train order to a B. & O. electric locomotive was issued on July 1, 1895, and regular freight service was instituted on the following 4th of August. The Street Railway Journal of March, 1896, reported that: "Electric locomotive No. 1 on August 4, 1895, took up regular freight service through the Belt Line Tunnel."

The original rolling stock consisted of three 96-ton gearless locomotives. The armatures were mounted directly on the main-driving axle, the connection to the driving wheel being made through a spider and rubber driving cushions. Power was supplied directly from a power plant built for that purpose and equipped with five, 500-kw., 700-volt, d. c. generators direct-connected to tandem compound, non-condensing Corliss engines.

Contact System

The original contact system was overhead and employed two Z bars so arranged as to form a box-like structure with a slot at the bottom. The collector shoe which slid in this slot was attached to the locomotive by a pantograph. Outside the tunnels the Z bars were supported from towers by catenary construction and in the tunnels by direct hangers. In 1908 the overhead conductors were

replaced by a third-rail system. The installation, with newer locomotives, is still in operation.

Steam railroad electrification was anticipated several years by electric street railways. The first of these was the Sprague installation in Richmond, Va., early in 1888. Street railways also initiated the use of electric locomotives, the first employed in regular service in the United States being the freight unit installed in May, 1888, on the Ansonia Derby and Birmingham Electric Line. The motive power for this line consisted of three passenger cars and one locomotive built by the Van Depoele Electric Manufacturing Company.

It was 65 years ago, in 1880, that Thomas A. Edison laid a mile of 3½-ft. gauge track at Menlo Park, N. J., over which he ran cars drawn by an electric locomotive, consisting of a four-wheel iron truck on which was mounted a 75-amp., 110-volt motor. The two running rails delivered the current to the locomotive, each wheel having a metal rim and a wood center. A three-legged spider connected each wheel rim to a brass knob from which current was collected by brushes for connections to the motor. A maximum speed of 42 miles an hour was attained.

Further Developments

Following this initial development, a number of electric locomotives were tried. These included the Daft engine "Ampere" on a 12-mile section of the Saratoga, Mt. McGregor and Lake George in 1883, the Daft "Benjamin Franklin" operating on the New York Ninth Avenue elevated between 14th and

50th Streets in 1885, the Field locomotive tried on the Second Avenue Elevated in New York in 1888, the gearless locomotive built by the Thompson-Houston Company, exhibited at the Chicago World's Fair in 1893 and used in the streets of New Haven, Conn., in 1896 by the Manufacturers Railroad. Some of these units are shown in the illustrations.

NEW BOOK . . .

A.S.T.M. Specifications for Steel Piping Materials. Published by the American Society for Testing Materials, 260 South Broad Street, Philadelphia 2, Pa. 344 pages, 6 in. by 9 in. Bound in Paper. Price \$2.

This is a special compilation of A.S.T.M. specifications for steel piping materials including welded and seamless, black and hot-dipped, electric-fusion-welded and electric-resistance-welded, spiral welded, high-temperature and high-pressure service pipe; welded wrought-iron and welded alloyed open-hearth pipe; boiler, superheater and miscellaneous tubes; heat-exchanger and condenser tubes; carbon steel castings for valves, flanges and fittings and alloy-steel fittings for high-temperature service; forged or rolled steel pipe flanges; factory-made wrought carbon and carbon-moly welded fittings; alloy-steel for high-temperature service; carbon and alloy-steel nuts for high-pressure and high-temperature bolting service; and heat-treated carbon-steel bolting material. The Emergency Alternate Provisions issued for many of the standards are bound in the back of the compilation.

Practical Research

(Continued from page 1016)

was due partially to the fact that some locomotives operating over the bridges were too light to produce maximum stresses. In addition, it was found that maximum stresses were not always produced under the same locomotives operating at the same speeds, even with their crank pins in position for maximum hammer blow effect.

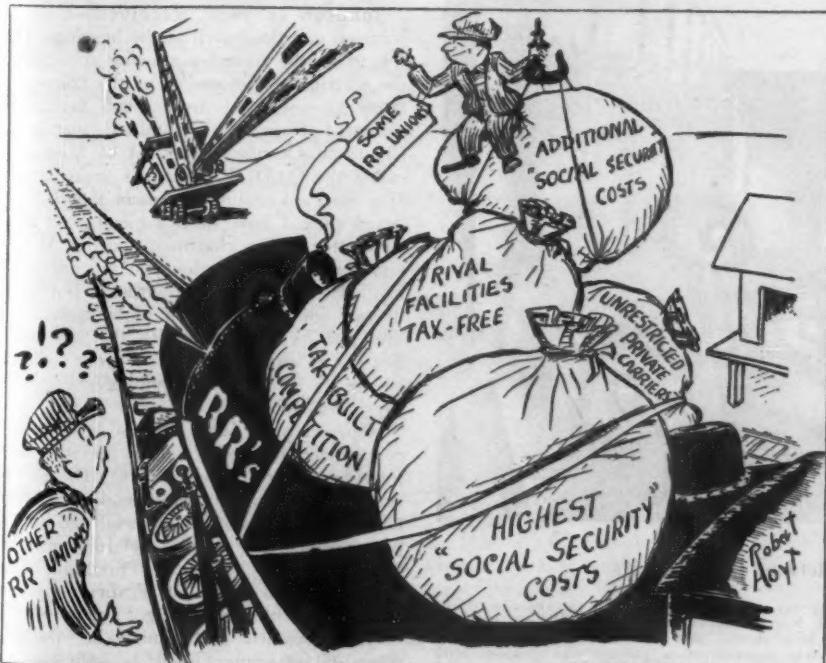
Concerning the stress distribution in the various beam and girder groups, analysis of the test data indicated that the variation of stresses in the groups was not a function of speed. The maximum stress in one beam or girder of a group of two beams or girders, well diaphragmed together, was about 15 per cent greater than the average stress in the group. When the two beams or girders were not diaphragmed together, the maximum stress in one of the beams or girders for one of the spans tested was about 70 per cent greater than the average stress in the group. In groups of three beams or girders, the maximum stress in one beam or girder was 20 per cent greater than the average stress in the group.

The use of ½-in. rubber fabric pads between the timber ties and tie plates did not reduce the amount of impact on the span. Insofar as stresses were concerned, the use of a welded rail joint at the center of the span produced the same effect as a continuous rail.

REPAIRING A BRIDGE THE HARD WAY.—From the western front comes the account of 38 men in the 733rd Railway Operating Battalion's bridge and building platoon who, before they could repair a half demolished bridge in eastern France, had first to remove from the debris, unexploded 100-lb. bombs, connected to more than 1,000 lb. of dynamite. A detonation had wrecked the two center abutments of the bridge but had failed to explode the remaining dynamite and bombs. Working in icy waters and freezing temperatures throughout 12 hazardous days, the explosives were removed without incident and the bridge completely repaired. A former New York Central employee, 1st Lt. Alexander Matthews, Jr., of Elmhurst, N. Y., one of the railroaders in charge, worked in the water with the enlisted men on the assignment.

INDUSTRY-OPERATED PLANES.—A number of large industrial companies are reported in "Aviation News" to be planning to buy and operate transport planes in which their executives will do most of their traveling around the country, when the war's end makes plenty of planes, pilots and fuel available. This won't do the railroads any good, but it won't do the air lines any good either, unless perhaps they develop plane-leasing as a side-line. In any case, whenever heavy fog grounds the aircraft, their cargoes of high-priced managerial talent will swarm onto the railroads seeking choice train space, and prepared to be very critical of railroad forethought if they don't get it forthwith.

Some Pretty Hefty Straw for the Camel's Back



Railroads-in-War News

P.R.R. Railroaders Promoted in E.T.O.

Attached to 706th Railway Grand Division, men now stationed in Germany

Headquarters, Transportation Corps, Paris, has reported a number of promotions in the 706th Railway Grand Division, now operating in Germany.

The commanding officer of this grand division, Col. Louis G. Jamison, of Jersey City, N. J., who performs the duties of a general superintendent, has been promoted from the rank of lieutenant colonel. In civilian life, Colonel Jamison was night freight trainmaster on the New York division of the Pennsylvania, at Jersey City.

Lt. Col. Jack W. Buford, of Seattle, Wash., was raised from the rank of major. He is executive officer and assistant general superintendent of the 706th Grand Division, and was formerly track supervisor at Akron, Ohio; on the Cleveland division of the P. R. R. (Col. Buford is the son of Charles H. Buford, operating

vice-president, Association of American Railroads).

Promoted at the same time were: Maj. Edwin G. Adams, Jr., formerly assistant real estate supervisor, eastern region, P. R. R., at Philadelphia, and now acting as engineer of track and structures, elevated from the rank of captain; and Capts. Donald P. Kane and David C. Hastings, who were stepped up from first lieutenants. Captain Kane, of Erie, Pa., now assistant engineer, telephone, telegraph and signals, was formerly an inspector of telegraph and signals on the Long Island. Captain Hastings, of Richmond, Va., and now assistant engineer of tracks for the Grand Division, was assistant supervisor of track on the eastern division of the P. R. R., at Pittsburgh, Pa. (Capt. Hastings is the son of E. M. Hastings, chief engineer, Richmond, Fredericksburg & Potomac).

Other promotions included 2nd Lt. Hiram F. Slocum, of Long Branch, N. J., from master sergeant, and M/Sgt. Arthur L. Foster, of Chicago, Ill., from corporal. Lieutenant Slocum was a yardmaster on the Pennsylvania's New York division before entering the service, and Sergeant Foster was chief clerk in the claims branch of the legal department, Western region, Chicago.



Photo Courtesy Associated British Railways

General Eisenhower's Battlefront Headquarters

Conference room of an armor-plated former sleeping car, which was converted for the use of the Supreme Allied Commander in Europe by the London & North Eastern of England. Six of 10 berths were removed to provide room for the appointments here shown, and a shower compartment was installed. Shatterproof windows were fitted and, for speedy communication, the car was equipped with radio, with an aerial on the roof. Armor plating added 7½ tons to the weight of the car.

House Gets O.D.T. Appropriation Bill

It provides \$7,000,000 for fiscal '46 compared with this year's \$14,050,000

Appropriations totaling \$7,000,000 for the Office of Defense Transportation are carried in the National War Agencies Appropriation Bill for the fiscal year ending June 30, 1946, which the House of Representatives received June 1 from its committee on appropriations. Giving effect to the \$2,950,000 cut proposed in the pending House Joint Resolution 202, O. D. T. appropriations for the current fiscal year total \$14,050,000.

The \$7,000,000 carried in the bill represents a cut of \$700,000 under the revised estimate submitted by the Bureau of the Budget (see *Railway Age* of May 5, page 805). The original budget estimate for fiscal 1946 was \$11,000,000, but O. D. T. Director J. Monroe Johnson explains that this was on the basis of a two-front war; and that the \$7,000,000 was O. D. T.'s own revision to a one-front basis.

The O. D. T. director's explanation, along with comment from him on various phases of the transportation situation, was made in testimony given May 5 before a House appropriations subcommittee. The record of these subcommittee hearings was released with the reporting of the bill.

Johnson Is Well Received—Colonel Johnson got along well at the hearings. He spread on the record a glowing account of the wartime achievements of the transportation agencies and drew much favorable comment from the committee members. Chairman Cannon, Democrat of Missouri, called the O. D. T. director's presentation "the most astounding statement that I have heard since I have been a member of this committee." The chairman added: "When you compare the burden you are carrying in this war as compared with the last war, in view of the reduction of equipment in this war as compared with the last war, and if it were not part of your official statement before this committee, I would say it was incredible."

Representative Cannon had previously commended Colonel Johnson for the "admirable administration" of O. D. T. as reflected in reductions in expenditures. The chairman also referred to railroad manpower difficulties, and Colonel Johnson said they comprised "the major problem." In this connection the O. D. T. director went on to assert that "we have got about 800,000 certified seamen that cannot be drafted, when 200,000 seamen would be sufficient for

American ships. . . They cannot draft seamen and yet they have a plan to draft railroad employees."

"Operating on Nerve"—With respect to the railroad situation generally, Colonel Johnson told the subcommittee what he has been saying publicly about the difficult times ahead. He thinks he will "probably be able to get by, but I do not have any kind of a reserve." Chairman Cannon observed that "you are operating on your nerve," and the O. D. T. director agreed. Earlier in his statement he had asserted that if last winter's adverse weather conditions in the East had continued for another two weeks, "we would have faced consternation in America." And if it had not been possible to halt the draft of railroad men over 29 years of age, the country would have had to go to "priorities in transportation." Presumably he meant freight priorities, for in a subsequent discussion of passenger transportation problems ahead, he exclaimed: "Don't tell me about the rationing of transportation; it cannot be done. . . We could not do it with our little staff; you will have a revolution in America if you try it."

Angry Enough to Shoot—The grain car shortage was brought up by Representative Case, Republican of South Dakota, who asked about that letter wherein the O. D. T. director had said it was "presumptuous" for the Board of Trade of Kansas City to make certain recommendations which its president, E. R. Jessen, submitted to O. D. T. Colonel Johnson denied that he regarded the "right of petition" presumptuous on the part of the American people, adding, however: "I was so mad I could have shot that man then, so I have no apologies to make." Mr. Case asked if Colonel Johnson had told Mr. Jessen that "you could have shot him," and the O. D. T. director replied that he had, having seen him since the time the letters were exchanged.

Chairman Cannon was interested in the extent to which O. D. T. has been able to utilize or increase the use of water transportation. Colonel Johnson replied that "a great deal" has been accomplished along that line, but he finds that not many want to use water transportation when "everything is wanted so quickly." He proposed to Chairman Land of the Maritime Commission that some of the materials moving to shipbuilding plants in the New Orleans, La., area be routed over the inland waterways; but Admiral Land said, "I want this stuff there now," so much of it had to be moved by rail.

U. S. Operated Trucks Untaxed—With respect to O. D. T.'s motor transport activities, the committee members seemed most interested in Colonel Johnson's refusal to pay state license fees and highway use taxes in connection with the operation of the Middle West truck lines taken over by the President and placed under O. D. T. control sometime ago. The O. D. T. director insisted that he would not make the payments unless ordered to do so by Congress. The bill, as reported, contains a proviso stipulating that in operating any commercial railroad or truck line the O. D. T. "shall pay whatever license or inspection fees and highway use compensation taxes such lines would have been obligated to

pay had they continued in operation under the control of the owners thereof." The bill carries no appropriation for operation of the truck lines; O. D. T. got money for that purpose from the emergency funds of the President.

Colonel Johnson failed to get in the bill the authorization which he sought at the hearings to increase to \$10,000 the salary of the deputy director and to raise "five other principal officers" to \$9,000. Homer C. King is acting deputy director during the absence of Deputy Director C. D. Young who was recently designated to represent the United States on the provisional executive board of the organization set up to act in an advisory capacity with respect to the rehabilitation of European transport.

Young Gets No O. D. T. Pay—Information submitted to the subcommittee revealed that General Young receives no salary from O. D. T., but continues to receive his former salary of \$50,000 a year from the Pennsylvania of which he is vice-president on leave of absence. The same is true of two other O. D. T. officials—J. M. Aydelott, director of the Railway Transport Department, who is on leave from his position of general manager, Lines East, Chicago, Burlington & Quincy, continuing to receive \$18,000 a year from that road; and E. E. McCarty, assistant director of the Railway Transport Department, who continues to be compensated by the Atchison, Topeka & Santa Fe at a rate of \$20,000 per year, while on leave from the position of general manager of its Coast Lines.

The committee's report on the bill applauded O. D. T.'s task as "one of the most difficult" of the war. "The transportation facilities of the country," it went on, "have been strained to the breaking point with a volume of freight and passenger traffic far exceeding anything previously known; at the same time they have contributed their share of manpower to the armed forces and have operated under serious handicaps in procuring needed new equipment. Their task has been difficult and, with the guidance and assistance of the Office of Defense Transportation functioning in its capacity as an emergency regulatory body, they have well discharged their wartime responsibilities."

Fair Employment Agency Still Waiting for Stacy Report

No final report has yet come from the special committee which the late President Roosevelt appointed on January 3, 1944, to consider the impasse wherein the Committee on Fair Employment Practice has found itself unable to enforce "directives" calling upon Southern railroads and railroad labor organizations to cease and desist from alleged discriminations against negroes. This was revealed in now-published testimony given on April 27 by F. E. P. C. Chairman Malcolm Ross before a House appropriations subcommittee which was considering the National War Agencies Appropriation Bill for the fiscal year ending June 30, 1946.

Members of President Roosevelt's special committee are: Chairman Walter P. Stacy, chief justice of the Supreme Court of North Carolina; William H. Holly, judge of the United States District Court at Chicago; and Frank J. Lausche, then mayor of

Cleveland and now governor of Ohio. As noted in the *Railway Age* of January 8, 1944, page 168, the so-called "impasse" arose when the Southern roads informed the committee that they could not comply with its directives, while most of the cited railroad unions ignored the directive entirely.

At the appropriations subcommittee hearing, Mr. Ross was asked about the proceeding by Representative Case, Republican of South Dakota. The F. E. P. C. chairman replied that it was "a difficult case," adding that the Stacy committee has met with the parties and has issued "one public statement that it hoped for progress." But "we have no final report from the committee."

Truman Makes "Don't Travel" Appeal in War Message

President Truman embodied a "don't travel" appeal in his June 1 message to Congress on "Problems, Difficulties, and Dangers Involved in Finishing the War." In that part of the message which discussed the "redeployment" of troops, the President had this to say:

"Relatives and friends of service men can do their part in this program by not crowding around the ports and personnel centers through which the men pass. The men will get home as soon as is humanly possible. Troop movements on the nation's railroads will become increasingly heavy from now on. I ask for full public cooperation in preventing any aggravation of this burden on domestic transportation, for it would slow down the rate at which soldiers can be reunited with their loved ones."

To Continue High Demurrage on Asphalt Tank Cars

The American Association of State Highway Officials has been informed by Colonel J. Monroe Johnson, director of the Office of Defense Transportation, that the O. D. T. will not at present recommend to the Interstate Commerce Commission the exemption of tank cars used in transporting asphalt and tar from the requirements of I. C. C. Service Order No. 263, which limits the free time for holding tank cars and fixes a sliding scale of demurrage penalties on cars held beyond free time. The order has "definitely been of assistance" in getting maximum service from the limited number of cars available, he said, and the great majority of interested parties have agreed, he added, that the order "was and still is necessary."

More Oil Moving West

The number of tank cars operating in the West coast petroleum service has increased from about 5,700 in May, 1944, to about 12,400 in May of this year, according to Deputy Petroleum Administrator Davies, who went on to say that petroleum movements to the West coast are scheduled to increase steadily for the next few weeks.

Before the war began, it was explained, refineries on the Pacific coast supplied practically all petroleum products consumed in that area. Increased demand due to war requirements, however, and the dislocation of tanker vessel operations, led to the use of tank cars to move additional supplies to that region, mainly from the midwestern

and southwestern producing fields. By the end of 1943, tank car shipments into the West coast territory averaged 41,019 barrels a day. In May, 1944, the average was a little higher, or 45,488 barrels a day, but by April 14 of this year it had reached 124,158 barrels, and for the week ended May 12 was 139,686 barrels a day.

The diversion of additional tank cars to the West coast movement has had some effect on the movement by rail of oil and petroleum products to the Atlantic coast, it was pointed out, but it is expected that such shipments will level off at an average of around 525,000 barrels a day for the summer months. The average for the week ended May 26 was 505,783 barrels a day.

Katy's 746th Railway Battalion Now Operating in Germany

Numerous obstacles were encountered by the Katy-sponsored 746th Railway Operating Battalion when it began operations in Germany early in April. On several occasions, oil tank cars were set afire, and frequently the outfit discovered communications to be out and bridges destroyed.

Headquarters, European Theater of Operations, now tells of an incident which occurred on the night of April 13. Engineer Sgt. Daniel R. Chancey, of Columbus, Ohio, was at the throttle of a German 2-8-0 steam locomotive, operating over a German railroad line stripped of all signals. The night was black and the line unfamiliar to the crew. Strung out behind the locomotive were 13 cars of package P. O. L. (petrol, oil and lubricant). At Grifte, which the train was then approaching, a bridge had been rebuilt but the main line track was still out. Communications were faulty and the crew had not been forewarned. Before brakes could be applied, the locomotive had moved onto the bridge, had broken loose from the remainder of the train and had plunged 50 ft. to the stream below. Miraculously, the three crew members escaped. A second engine was hooked to the train and it was pulled back to Warburg.

This same bridge later was set afire by hot ash from a locomotive, and a following train barely cleared it before the bridge was blazing. In the same vicinity a train released a cloud of hot cinders and set a P. O. L. train afire. Following these accidents, Army railroaders placed from four to five empty box cars directly behind all locomotives to protect loaded freight cars and oil tank cars.

The battalion, commanded by Lt. Col. Willis C. Pruett, of Waco, Tex., and formerly with the Missouri-Kansas-Texas, crossed the Rhine by truck in early April over a pontoon bridge between Bonn and Remagen. Bridges were burned out and communications were described as "very bad." Jeeps were employed to deliver orders between stations and crews working in the field. Signal gangs of Company "A", headed by 1st Lt. Frank E. Calusha, formerly signal supervisor for the Santa Fe at San Bernardino, Cal., aided the Signal Corps in running communication lines.

Track crews, supervised by 1st Lts. Thomas J. Reagan, of Scranton, Pa., a former Central of New Jersey railroader, and Charles M. Rutherford, of Parsons, Kan., once with the Katy, readied the German railroad lines for operation.

The 746th carried no American equipment into Germany, but among usable equipment the battalion found 36 camouflaged German locomotives in out-of-the-way places, and rolling stock, 60 per cent of which was German and 40 per cent French.

The battalion, the largest railway operating unit ever organized by the Army (original personnel totaled 1,252 enlisted men and 31 officers) was activated at Camp Plauche, La., in May, 1944, and began technical training on the Pennsylvania, at Old Harrisburg Academy, Harrisburg, Pa. Arriving in France on January 23 of this year, the unit was broken down into a number of detachments, which were sent out to veteran operating battalions. The balance of the 746th then began its initial job of running the line from Le Havre to Creil, France.

For the month of March the battalion handled 670 eastbound trains and 517 westbound for a total net tonnage of 260,949. Net ton-miles operated were 18,175,841. Military personnel forwarded totaled 176,197, and that evacuated reached 42,725.

Other former railroaders attached to the 746th are: Capt. Floyd D. Gibson, electric power transmission officer, of Villa Park, Ill. (B. & O.); 1st Lt. Richard L. Hunter, yardmaster, of Montclair, N. J. (P. R. R.); 1st Lt. Howard C. Terhune, dispatcher, Howe, Tex. (S. L.-S.F.); 2nd Lt. John A. Conahan, assistant trainmaster, White Summit Hill, Pa. (L. V.); 2nd Lt. Paul J. Dunn, company administrative officer, Youngstown, Ohio (B. & O.); 2nd Lt. John L. Roudabush, mechanical engineer, Pine

Bluffs, Ark. (S. L.-S. W.); 2nd Lt. Carl D. Selph, Jr., administrative officer, Hamlet, N. C. (Seaboard); 2nd Lt. Donald F. Unangst, assistant railway maintenance of way superintendent, Dunmore, Pa. (D. L. & W.); and 2nd Lt. Leo J. Yeager, assistant master mechanic, Altoona, Pa. (P. R. R.).

General Wilson to Address Army Transport Assn.

Brigadier General Thomas B. Wilson, formerly the Army's chief of transportation in the Southwest Pacific theater, will address the New York Chapter of the Army Transportation Association at a luncheon at the Hotel Commodore, New York, at 12:15 p. m., June 15. Reservations, so long as available space permits, may be made with the Association at its office at 25 Broad Street, New York 4.

Ties Get Urgency Rating

Because of the serious shortage of railroad crossties, their production has been given an "urgency" rating by the War Production Board, the Office of Defense Transportation has announced. The urgency rating is part of a program to recruit more workers to produce highly essential railroad tie replacements.

"Lumber" and "Logging" have been added to the national production urgency "must list." The W. P. B. understanding, the O. D. T. explained, is that "Lumber" embraces the production of sawed ties, (about 60 per cent are crossties) and "Logging" includes hewed ties. Sawmill and logging operators producing ties must



Naval Kitchen Car Wins "Hash Mark"

Having completed some 300,000 miles in troop train travel between Sampson and the West coast, this Lehigh Valley baggage car (one of six re-designed as kitchen cars in May, 1943) receives a service stripe from Comm. Joseph F. Deegan, commissary officer, U. S. Naval Training Station, Sampson, N. Y. There is no galley detail aboard these cars, single-service paper utensils being used exclusively. All cooking gear is returned to Sampson at the end of each run.

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contact W. P. B. lumber advisers to secure their individual local urgency ratings. Director Johnson of the O. D. T. has asked the tie contractors of the country to aid the drive for increased tie production by providing the names of their sawmill and logging supply operators to the proper lumber advisers.

In a statement R. L. Glenn, acting director of the O. D. T. Division of Transport Personnel, explained the situation as follows:

"Since the third quarter of 1944 the production of railroad crossties has declined at an alarming rate. During January and February, 1945, crosstie receipts at approximately 1,500 tie yards declined 46 per cent from the same period of 1944. The stated requirements of the railroads for 1945 are over 60,000,000 ties, but if the present trend of supply is continued, not over 30,000,000 ties will be available."

M. R. S. Promotion for Former P. R. R. Engine Foreman

A former engine house foreman for the Pennsylvania, and now on the Continent, 1st Lt. Raymond Tillack, of Company B, 756th Railway Shop Battalion, has been promoted to rank of captain, a recent issue of "The Yankee Boomer" (M. R. S. publication) has announced. Captain Tillack entered army service as an enlisted man, working up through the ranks to master sergeant, then being commissioned 2nd lieutenant, and later 1st lieutenant before leaving for overseas. He trained at Camp Claiborne, La., and was assigned to the 756th at Bucyrus, Ohio.

I. C. C. Service Orders

The Interstate Commerce Commission has issued Second Revised Service Order No. 300, which extends the icing restrictions on refrigerator cars loaded with potatoes instituted under the original version of the order. As revised the order is effective, unless otherwise directed, from June 7 through September 15. General Permits Nos. 1, 2, 3, and 4, as amended, continue in effect, thus providing certain exceptions to the requirements of the order.

Aside from extending the effective period, the revised order is made applicable to more territory, so that such shipments may not be initially iced or re-iced at any point east of the Mississippi river (except as allowed by permit) when originated at any point in Alabama, Georgia, Florida, South Carolina, North Carolina, Virginia, West Virginia, Maryland, Pennsylvania, Delaware, New Jersey, or Long Island, New York. The restrictions on Maine potatoes set forth in the original order remain effective.

The requirement that a War Food Administration permit must be furnished for

the shipment of potatoes from certain territories, as effective under Sixth Revised Service Order No. 259, has been further modified by Amendment No. 5 thereto, so that the requirement is applicable for the period from June 4 to 29, inclusive, unless otherwise directed, to shipments from Kern county, Cal., seven counties in eastern North Carolina, and four counties in eastern Virginia.

T. C. Maternity Special

There was nothing in their training manuals to prepare Sergeants William J. Brown, San Francisco, Cal., and Everett W. Hughes, of Garrett's Bend, W. Va., for the complications which set in after they had picked up a train-load of refugees at Geissen, Germany. Attached to the 718th Railway Operating Battalion, these two Army railroaders had their hands full when they discovered that among the 40 refugees packed into each of several boxcars were nine women about to give birth. All nine babies were born enroute, and all participants survived, even to the two sergeants whom Headquarters now describes as "shockproof."

No Fairs This Year—Johnson

State and regional fairs cannot be held this year, and attendance at local and county fairs should be restricted to those who do not use intercity transportation, according to Colonel J. Monroe Johnson, director of the Office of Defense Transportation and chairman of the War Committee on Conventions. This decision was based, he indicated, on an analysis of the demands which the transfer of troops from the European theater to the Pacific will make on the nation's transportation facilities.

"And if there are any doubts in anyone's mind about the size of this task," Colonel Johnson said, "they will be removed by next August." He declared that it will be necessary to "strip cars from regular passenger trains to take care of this unprecedented load." While "present transportation capacity is not adequate for such huge movements," "these movements will be made," he asserted.

The O. D. T. director also announced that sponsors of several large summer furniture markets have called off these exhibits, among them the San Francisco, Grand Rapids and Chicago furniture marts, thus following the course taken by the New York Furniture Exchange. The Merchandise Mart of Chicago, he added, also has canceled its summer gift market and summer apparel market. In addition, several furniture manufacturers have advised the committee that their showrooms will be closed during the usual summer show period.

Materials and Prices

The following is a digest of orders and notices that have been issued by the War Production Board and the Office of Price Administration since May 17, and which are of interest to railways:

Anti-Friction Bearings—The requirement that producers of anti-friction bearings fill rated orders only has been removed by amendment of E-10. Hereafter, W. P. B. said, unrated orders may be accepted and filled by producers of anti-friction bearings, provided they are able to meet

the delivery dates on their rated orders as required by PR-1.

Brass Mill Products—The CMP has been "open ended" for delivery of brass mill products on unrated orders five weeks in advance of the July 1 date set for the general release of controlled materials on unrated orders. Because supplies of brass mill products have been made available through contract cancellations and cutbacks, W. P. B. has issued amendments to CMPR-1 and CMPR-4 in order to permit any person to place

unrated orders now for immediate delivery of brass mill products. Unrated orders for other controlled materials may be placed now for delivery beginning July 1, W. P. B. said.

Building Hardware—Restrictions on the manufacture of builders' finishing hardware, cabinet locks and padlocks, established by Schedule 1 of L-236, have been removed.

Electrical Materials—On May 17, W. P. B. announced the revocation of four orders. Rating floors established under the orders were removed and production and delivery of the items concerned, within the limitations of man-power and materials and other applicable W. P. B. orders and regulations, are now unrestricted. The orders revoked are: L-250, covering electric motor controllers; L-221, covering electric motors and generators; L-315, covering enclosed safety switches, enclosed branch and service circuit breakers, service entrance equipment, panel and distribution boards and knife switches; and L-273, covering busways.

Hand Tools—Five schedules of the Hand Tools Simplification Order, L-157, have been revoked. All other applicable W. P. B. orders and regulations affecting the acquisition of production materials and distribution remain in force, W. P. B. pointed out. Schedule I, originally issued in July, 1942, covered hand shovels, spades, scoops, telegraph spoons and snow shovels. Schedule II, originally issued in September, 1942, covered forged axes, hatchets, broad axes, adzes and light hammers. Schedule IV—Heavy forged hand tools, including bars, blacksmiths' anvil tools, mattocks, picks, mine blasting tools, originally issued in October, 1942. Schedule V—Forks, hooks, rakes, hoes, eye hoes and hand cultivators, originally issued in July, 1943. Schedule VII—Wheelbarrows, originally issued in October, 1943. Only one Schedule, No. VIII, covering various types of wood-boring bits, remains in effect, W. P. B. said. Schedule III, which covered manually operated wood and special purpose saws was revoked on May 19, and no Schedule VI was ever issued.

Industrial Equipment—General Limitation Order L-123, which covered production and distribution of 26 specific items of general industrial equipment has been revoked. The items include: air filters, air washers, arc welding machines, baling presses, compressors, industrial dust collectors, fractional horsepower electric motors and generators, fans, blowers and exhausters, flexible metallic hose, tubing and fittings, heat exchangers, high pressure blowers, lifting magnets, pressure vessels (including air receivers), pumps, stationary steam engines, oxy-acetylene apparatus, and portable conveyors.

Power Saw Blades—Restrictions on the manufacture of power driven saw blades other than metal cutting blades, established by L-326 and its three schedules, have been removed. Manufacture and delivery of these blades remain subject to all other applicable W. P. B. orders and regulations, it was pointed out.

Woodworking Machinery—Under an amendment to general limitation order No. L-311, covering logging, lumber and wood products machinery and equipment, preference ratings for Class I woodworking machinery can be obtained hereafter only on W. P. B. form No. 3131. Class I woodworking machinery is defined, W. P. B. says, as that with a producers list price on October 15, 1942, of more than \$350 for any single machine or piece of equipment. Previously, Class I machinery could be obtained on W. P. B. form No. 617 under sub-paragraph (III) or paragraph (B) (2) of order No. L-311. The new amendment deleted this sub-paragraph.

Vitrified Clay Pipe—Simplification and standardization restrictions on the manufacture of vitrified clay sewer pipe have been removed through revocation of L-316.

Prices

Southern Pine—No increase in ceiling prices for southern pine lumber is being contemplated at this time, the O. P. A. announced recently. The price agency made the announcement because recently cost studies were submitted to the price agency by the industry for examination to determine whether a southern pine price increase was required under the standards of the Emergency Price Control Act, as amended. Reports received by O. P. A. indicated that some shipments of southern pine lumber, particularly shipments for war uses, were being held up by sellers anticipating some upward adjustment in ceiling prices.

GENERAL NEWS

Say Anti-Trust Suit Should Be Dismissed

Railroads contend that their "bureau" rates have the okay of the law

In the course of a hearing before the federal court at Lincoln, Neb., which ended on June 1, Douglas R. Smith, chief counsel for the railroads defending the anti-trust suit, maintained that the court should dismiss the suit because it is without jurisdiction in the case. Mr. Smith based his contention on the assertion that the railways have religiously obeyed the rules promulgated in the certificate issued by the War Production Board excepting the carriers from anti-trust prosecution for conference rate making procedures. Under such a certificate, the carriers are entitled to complete immunity. The railways also challenged the attorneys of the anti-trust division of the Department of Justice to produce a bill of particulars as to the time, place and nature of the alleged violations claimed by the department in its bill of complaint.

This challenge of the railways was the culminating factor in the hearing of the suit brought by the Department of Justice against 47 railways and 90 railway and banking officers charging them with conspiracy to monopolize transportation in the western territory by means of collusive rates. The certificate referred to is W.P.B. No. 44 issued in March, 1943, under Section 12 of Public Law No. 603 absolving industries wholeheartedly engaged in war activities from anti-trust prosecution. Counsel for the railways also maintained that the charge of the Department of Justice that Sherman Act violations occurred prior to the issuance of the certificate is mere quibbling and "an attempt to short circuit the certificate." They maintain also that the charge that collusion occurred to prevent adoption of new technology is mere "window dressing" and that what is actually under attack is the conference method of establishing freight rates, which method is completely approved under I.C.C. rules and has been in effect for some 35 years without question, beside being sanctioned, since the war, by W.P.B. Certificate No. 30. Railway counsel requested the court, if it does take jurisdiction, to eliminate the legal and proper rate making procedures from the complaint.

Earlier in the hearing Wendell Berge, assistant attorney general in charge of the anti-trust division of the Department of Justice, requested Judge John M. Delehant to disallow the western railways' motion to dismiss the suit. He complained that there had been many implications that "this suit is somehow unpatriotic" in that it inter-

feres with the successful prosecution of the war, but, he said, the War and Navy Departments had raised no objections to the filing of the suit. In his argument he emphasized "we are not resting our case alone on rate bureaus. We have alleged a conspiracy which involved many things and that one of the mechanisms through which the conspiracy was carried out was rate bureaus and associations. This conspiracy was carried out through various means, some of which may well be legal, some of which may not be legal, but it is not important whether the mechanism is legal or illegal."

Mr. Berge stated there was an "overall conspiracy" to restrict rate reductions, to prevent and delay installation of new services and to prevent the adoption of new technology and that such conspiracy had existed for at least 12 years under the Western Commissioner agreement and that the W.P.B. certificate referred to previously was not retroactive. He admitted that the railroads and public utilities cannot be lumped together with private business in every respect, and that the I.C.C. operates to eliminate cutthroat rate competition through maintaining maximum and minimum limits within which rates must be kept, but, he contended, that this did not indicate that all competition is illegal. He attempted to explain that there is no conflict between the Interstate Commerce Act and the Sherman Anti-Trust Act, but stated "there is nothing in the Interstate Commerce Act or any other law with respect to group action in the initiation of rates which permits coercion."

Plan 1946 Bus Production

The bus manufacturers' industry advisory committee of the War Production Board recently discussed plans for a production program of 16,000 integral buses for 1946, according to a W. P. B. press release. Bus production is no longer under a W. P. B. limitation order, but it was pointed out that schedules approved by the W. P. B. under its L-101 order before revocation have priority as to delivery over orders not covered by such material releases.

The war-time "list of simplified requirements" for bus specifications, under which the standardized "Victory-model" bus types were built, has been withdrawn, it was explained, but deviations from the standard designs will still be subject to the limitations of available materials, which will prevent the inclusion of many extra fittings and freedom of choice of paints and finishes.

Pension Act Amendment

Senator Langer, Republican of North Dakota, has introduced S. 1094 to amend the Railroad Retirement Act "so as to provide for the retirement of individuals who are 63 years of age or over and who have completed 40 years of service."

Refunding Issues Have Cut Charges

Drop in June, 1944,-May ,1945, period was \$11.8 million,
I.C.C. bureau says

Refunding issues approved by the Interstate Commerce Commission during the 12 months from June, 1944, through May, 1945, will bring to the railroads annual interest savings of \$11,800,000, a reduction of 25.22 per cent below charges on the securities replaced, according to data included in the latest "Monthly Comment on Transportation Statistics," issued by the commission's Bureau of Transport Economics and Statistics. This issue introduces the comment in new front-page dress, including a decorative headpiece with a sketch depicting various modes of transportation.

The data on the refundings show that during the 12 months under review the commission approved finance applications authorizing the issuance of \$1,081,415,000 par value of mortgage bonds for the purpose of refunding securities in the amount of \$1,118,697,068 outstanding in the hands of the public. As the bureau notes, the immediate reduction in debt was "comparatively small," being 3.33 per cent; but "sinking funds have been provided which will materially reduce this debt before maturity."

Ultimate Savings—It is the substantial reduction in interest charges, however, that is emphasized by the bureau, which notes that the \$11,800,000 cut "is equivalent to nearly one third of the total debt reduction of \$37,300,000." It further calculates that over the life of the refunding issues, the last maturity year being 2003, the total savings will be about \$310,000,000.

Meanwhile, as the comment noted earlier, the dividend appropriations of the railroads "have failed during the war years by a large margin to respond proportionately to the increases in net income (after taxes)." Total dividend appropriations in 1944 were 95.31 per cent above those of 1939, but the net income was 201.04 per cent higher. During the first three months of this year railroads not in the hands of the courts paid out 25.27 per cent of their net income in dividends, as compared with 24.69 per cent during the first three months of 1944 and 64.69 per cent in the year 1939.

Gross capital expenditures by the Class I roads for additions and betterments during this year's first quarter totaled \$111,663,971 of which \$46,365,667 was for road and \$65,298,304 for equipment. Comparable data for 1944 are not available, for the required monthly reports in this connection began with January, 1945.

(Continued on page 1032)

4 Months Net Income Was \$195,000,000

Net railway operating income for the same period was \$339,854,338

Class I railroads in the first four months of this year had an estimated net income, after interest and rentals, of \$195,000,000 as compared with \$196,254,254 in the first four months of 1944, according to the Bureau of Railway Economics of the Association of American Railroads. The four-months net railway operating income, before interest and rentals, was \$339,854,338, compared with \$353,732,744 in the corresponding 1944 period.

April's estimated net income was \$54,300,000, compared with \$48,033,277 in April, 1944; while the net railway operating income for that month was \$91,904,980, compared with April, 1944's \$89,673,672. In the 12 months ended with April the rate of return averaged 3.96 per cent compared with 4.48 per cent for the 12 months ended April 30, 1944.

Operating revenues for April totaled \$778,985,436 compared with \$759,537,535 in April, 1944, while operating expenses totaled \$531,689,106 compared with \$509,004,432. The four-months gross was \$3,056,456,147 compared with \$3,032,540,556 in the same period of 1944, an increase of 0.8 per cent. Operating expenses in the four months amounted to \$2,106,374,746 compared with \$2,032,544,063, or an increase of 3.6 per cent.

Class I roads in the four months paid \$551,660,816 in taxes compared with \$582,606,637 in the same period of 1944. For April alone, the tax bill amounted to \$138,553,844 a decrease of \$5,468,711 or 3.8 per cent under April, 1944. Twenty-three Class I roads failed to earn interest and rentals in the four months, of which 11 were in the Eastern district, two in the Southern region, and 10 in the Western district.

In the East and South—Class I roads in the Eastern district in the four months had an estimated net income of \$80,000,000 compared with \$83,913,488 in the same period of 1944. For April alone, their estimated net income was \$26,700,000 compared with \$21,334,664 in April, 1944. Those same roads in the four months had a net railway operating income of \$140,250,138 compared with \$149,173,438 in the same period of 1944. Their April net railway operating income amounted to \$42,158,399 compared with \$38,713,989 in April, 1944.

The four-months gross in the Eastern district totaled \$1,315,750,213, a decrease of 1.4 per cent compared with the same period of 1944, while operating expenses totaled \$973,098,158, an increase of 2.6 per cent.

Class I roads in the Southern region in the four months had an estimated net income of \$31,000,000 compared with \$37,600,393 in the same period of 1944. For April alone, they had an estimated net income of \$6,600,000 compared with \$8,387,614 in April, 1944. Their four-months net railway operating income was \$55,278,931 compared with \$59,834,240 in the same period of 1944.

Their April net railway operating income amounted to \$12,730,456 compared with \$14,202,335 in April, 1944.

Operating revenues in the Southern region in the four months totaled \$450,506,704, an increase of 0.9 per cent compared with the same period of 1944, while operating expenses totaled \$285,713,752 or an increase of 5.2 per cent.

In the West—Class I roads in the Western district in the four months had an estimated net income of \$84,000,000 compared with \$74,740,373 in the same period of 1944. For April alone they had an estimated net income of \$21,000,000 compared with \$18,310,999 in April, 1944. Those same roads in the four months had a net railway operating income of \$144,325,269 compared with \$144,725,066 in the same period of 1944. Their April net railway operating income amounted to \$37,016,125 compared with \$36,757,348 in April, 1944.

Gross in the Western district in the four months totaled \$1,290,199,230, an increase of three per cent compared with the same period of 1944, while operating expenses totaled \$847,562,836, an increase of 4.3 per cent above 1944.

Class I Railroads—United States

Month of April

	1945	1944
Total operating revenues	\$778,985,436	\$759,537,535
Total operating expenses	531,689,106	509,004,432
Operating ratio—per cent	68.25	67.02
Taxes	138,553,844	144,022,555
Net railway operating income	91,904,980	89,673,672
(Earnings before charges)		
Net income, after charges (est.)	54,300,000	48,033,277
Four Months Ended April 30, 1945		
Total operating revenues	\$3,056,456,147	\$3,032,540,556
Total operating expenses	2,106,374,746	2,032,544,063
Operating ratio—per cent	68.92	67.02
Taxes	551,660,816	582,606,637
Net railway operating income	339,854,338	353,732,744
(Earnings before charges)		
Net income, after charges (est.)	195,000,000	196,254,254

O. D. T. Bus Pool Terminated

The reserve pool of integral buses which the Office of Defense Transportation has maintained since August, 1942, was terminated June 1, the O. D. T. has announced. This pool was made up of some \$75,000,000 of bus equipment, or 7,570 units, which were purchased by 839 different bus operators under an arrangement which gave the O. D. T. authority to meet any sudden transportation emergency in any section of the country by withdrawing from regular service any units to which the agreement applied.

Execution of the sale and transfer agreements by bus purchasers was not required after July 1, 1944, when it was decided that the pool of equipment subject to O. D. T. disposition was sufficiently large to meet any contingency, and the termination of the pool relieves the operators of the obligation to release such equipment at O. D. T. request.

Baggage Association Takes a New Name

The American Association of General Baggage Agents now calls itself the American Association of Baggage Traffic Managers, this group has announced.

Orders Power Brakes on All Freight Cars

I. C. C. approves AB brake and asks for data to guide an installation program

The Interstate Commerce Commission, in an order by Division 3 in the No. 13528 proceeding and an accompanying report on further hearing by Commissioner Patterson, has formally prescribed specifications and requirements for power brakes and appliances for operating power brake systems for freight service, and has directed the installation of such equipment on all cars used in freight service, except cars equipped with passenger car brakes, before a date to be set later. The report indicated that, "at least until something better is developed, the AB brake should be considered as in reasonable and substantial conformity with the proposed specifications and requirements, and with the law."

Information by Aug. 28—Finding that the record does not afford sufficient information for fixing precise requirements as to the rate at which suitable equipment must be installed or the dates when such installations must be completed, the commission has directed each railroad to file with it, on or before August 28, a statement of its best estimate of the time when it can complete installation of brakes and appliances in conformity with the prescribed specifications on its interchange and non-interchange cars, together with the following information:

1. Number of freight cars owned which are equipped with freight air brakes.
2. Number of such cars not equipped with type AB brakes.
3. Number of such cars to be retired annually for the next 5 years.
4. Present program for the installation of AB brakes on cars in service, including number on order for conversion purposes.
5. Rate at which AB equipment probably can be obtained in the future.
6. Number of cars on which AB equipment was installed in the 12 months preceding the date of the statement.
7. Location and capacity of shops or repair facilities where AB brakes are being installed.
8. Location and capacity of additional shops where such installations can be made.
9. Locations and capacity of other shops or repair points.

I. C. C. to Set Time Limit—Upon the information so developed, or obtained at further hearings in individual instances if necessary, the report said, "we shall undertake to prescribe a program under which the installations of AB brakes shall be prosecuted and completed by the railroads as a whole, or by groups, or individually as may appear to be appropriate. During the interim respondents will be expected to proceed with all possible diligence in the installation of AB brakes on their cars, and in prescribing the program for ultimate completion of such installations all time subsequent to the date of this report will be included in the total time allowed."

Pointing out that the commission has no control over owners of private cars, except that it may require the railroads not to move cars not equipped with approved brakes, the report added that "we are of the view that the installation of AB brakes on private freight cars used in interchange

service should proceed coincidentally with whatever program is prescribed for the installation of such brakes on railroad-owned cars. The railroads will be expected to police this matter, and we shall give consideration later to prescribing a date after which private cars not equipped with AB brakes may not be hauled or used by respondents in freight trains."

"Show Cause" Order Last Year— The prescription of specifications and the provisions for setting dates for the complete equipment of freight cars with AB brakes are the outcome of an order to show cause why such action should not be taken, and of ensuing conferences and hearings, as noted in *Railway Age* of August 5 and October 28, 1944, pages 247 and 668, respectively.

The report stated that the railroads represented at the conferences were unanimous in their approval of the brake specifications, the intent of which is that brake equipment on trains of different lengths or using different brake pipe pressures will be so designed and maintained that it will conform to the specifications if operated in 150-car trains with 70 lb. brake pipe pressure. No objection to or criticism of the specifications has come to the commission's attention, the report said, but it noted that the Brotherhood of Railroad Trainmen did not contend that the AB brake does not conform to them in all respects, particularly in that undesired emergency applications have not been eliminated.

Commenting on this objection, the report said, "It cannot be assumed that we are precluded from prescribing specifications for power brakes and from requiring the use of brakes conforming thereto, until a brake becomes available which will function with absolute perfection. To indulge such an assumption would be to postpone into

the indefinite future the time when power brake installations could be required by order, would leave the railroads under no compulsion to install modern, safe, and efficient power brakes, and would tend to retard rather than to promote the safety of railroad operation."

Co. Cars Not Exempt—The proposal of the carriers represented by the Association of American Railroads that cabooses and cars not normally interchanged with other roads should be exempted from the requirements with respect to power brakes, and that the commission's order should apply "in the first instance" only to revenue cars in interchange service, was noted in the report with the following comment:

"Since the safety appliance acts are designed to promote safety in railroad operation, and since good brakes are of primary importance as a safety measure, we are of the view that eventually every car used, whether in interchange service or not, should be equipped with the best available brakes. We shall not, therefore, permanently exempt any equipment subject to the present inquiry from the requirement for installation of AB brakes, with one exception." (This exception, namely, cars equipped with passenger car brakes, also had been proposed by the carriers.) "We concur in the view that by reason of the time which must elapse in completing the program for installation of AB brakes attention should be focused initially on equipment used in interchange, but it is our view that all interchange cars should be included."

Inquiry Began in '22—The commission instituted its No. 13528 investigation in 1922, and in 1924 made public a tentative set of specifications covering power brakes. The carriers, through the American Railway Association, then undertook tests and

experiments to develop equipment in general conformity with the program for power brake installations, and so developed the AB brake, which was adopted as standard equipment September 1, 1933. Since that time new cars have been so equipped, and cars in service were required to be fitted with the AB brake under a 10-year program, set for completion January 1, 1945, according to A. R. A. interchange rule No. 3.

Even though the A. R. A.'s 10-year period expired with the end of 1944, and "a few carriers apparently made diligent efforts to comply with the program, and now have large percentages of their cars equipped" with the AB brake, the report said, "the program as a whole is only about half completed." As of June 30, 1944, it was reported that 48.6 per cent of railroad-owned cars in interchange freight service were equipped to meet the requirements, while 23.8 per cent of private car line equipment complied with the rule. In view of these conditions, the commission decided that "further handling" was called for, and the current report and order have resulted from this decision.

Western Society of Engineers Elects Officers

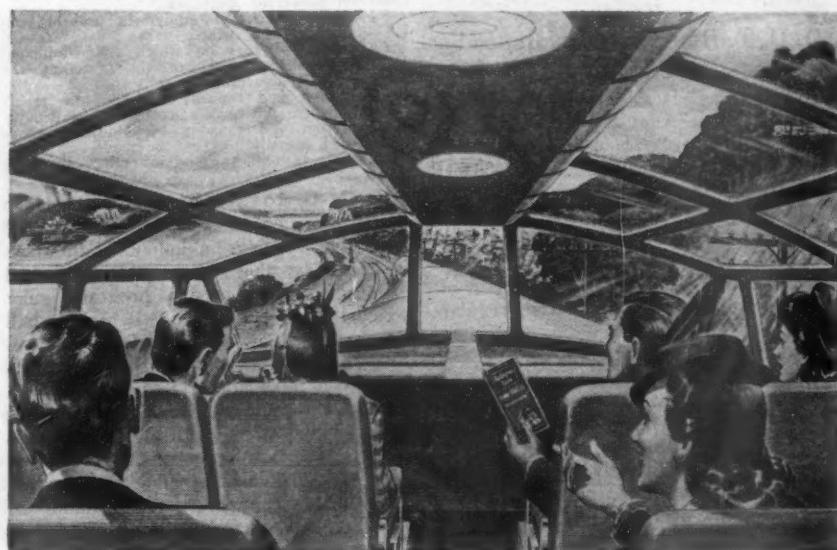
Dr. Henry T. Heald, president of the Illinois Institute of Technology, has been elected president of the Western Society of Engineers for the year 1945-46. Titus G. Le Clair, chief staff engineer, Commonwealth Edison Company, has been elected first vice-president and Robert B. Harper, vice-president, Peoples Gas Light & Coke Company, becomes second vice-president. M. W. Casad, plant extension engineer, Illinois Bell Telephone Company, has been elected treasurer. Dr. Heald succeeds P. R. Elfstrom, executive officer and general manager of the Chicago Aurora & Elgin R. R., as president of the society. The officers were inducted at the annual dinner meeting of the society in Chicago on June 4, and the Octave Chanute Medals—which are awarded to Chicago engineers for the best papers on engineering subjects presented before the society—were bestowed upon Frank F. Fowle, consulting engineer, and Robert L. Anderson, superintendent of public works, Winnetka, Ill.

Truman Bridge Cuts Time of Golden State Limited

With the opening of traffic across the new Harry S. Truman bridge at Kansas City, Mo., the Chicago, Rock Island & Pacific has announced a one-hour cut in the running time of the Golden State Limited between Chicago and Los Angeles, Cal.

According to the new schedule, the Golden State will leave Chicago at 9:00 p. m., one hour later than at present, and will make up most of the time before departure from Kansas City at 9:20 a. m., the following day, arriving in Arizona and California at the same time as at present.

In addition to a more direct route through Kansas City, made possible by the opening of the new bridge, built in conjunction with the Chicago, Milwaukee, St. Paul & Pacific, the Rock Island's new schedule is also assisted through partial completion of a \$12,000,000 relocation program, involving



This Zephyr-Type Coach of the Chicago, Burlington & Quincy, Equipped with a Glass-Enclosed Dome Rising Above the Tops of Regular Passenger Coaches as a Means of Providing a New Type of Sight-Seeing Car, Will Test the Reaction of Rail Passengers to This Innovation. The New Type Car Is Equipped with a Top and Sides of Laminated, Heat and Ray Resisting Glass, and the Upper Deck Is Reached by a Short Staircase. A Complete Description of the New Car Appeared in the *Railway Age* of March 24

100 miles of new roadbed and track on the Golden State route between Davenport, Iowa, and Kansas City.

The relocation projects, two of which have been completed, are being constructed to reduce curvature and grades, permitting increased passenger train speeds and heavier freight tonnage in that territory.

The Golden State, under the new schedule, will arrive in Kansas City at 8:50 a. m., and will afford connection with the Rock Island's southbound "Texas Rocket" leaving Kansas City at 9:10 a. m., arriving at Fort Worth, Tex., at 9:25 p. m., and Dallas, Tex., at 10:30 p. m. The northbound Texas Rocket will connect with the eastbound Golden State which leaves Kansas City at 11:05 p. m., arriving Chicago 11:00 a. m., the following day.

12 Chinese Engineers Begin Year's Study on N. Y. C.

On June 5, L. W. Horning, vice-president personnel, and other New York Central officers, welcomed 12 Chinese civil, electrical and mechanical engineers to the railroad for one year of training, under arrangements between the American and Chinese governments.

The men are graduates of Chinese or American universities, and are part of a group of 110 who will undergo similar training on other U. S. railroads, to prepare themselves for the job of rehabilitating Chinese railroads after the war. Others will follow until 252 have been trained.

Eight of these assigned to the N. Y. C. will be working as civil or mechanical engineers, and will be stationed in the Collinwood, Ohio, and Beach Grove, Ind., shops. Two will study the operation of trains, stations and pier movements, and the remaining two will concern themselves with construction and maintenance of signals, electrical substations and electric locomotives.

South Americans to Hold a Railway Convention

The "Fifth South American Railway Congress" is scheduled to meet in Montevideo, Uruguay, in November, 1945—for the discussion of a wide variety of subjects having to do with roadway and equipment, operation, accounting and statistics, legislation, and administrative policy.

Standardization of rolling stock to facilitate international exchange; fuel conservation; greater comfort for passengers; simplification of interchange between lines of different gages; comparative economy of different methods of traction; increasing locomotive efficiency; cab signals; improved couplers and power brakes; application of telephone, telegraph and radio to signaling and communication; rules for the acceptance of privately-owned freight cars; freight car utilization; improved conditions for employees—are among the many technical subjects to be discussed.

In the field of accounting, legislation, and administrative policy the subjects docketed include: Proposals to standardize accounting and statistical practices and terminology on the South American railways; negotiable way-bills; governmental relations of publicly and privately owned railways; pension proposals and wage control; im-

provement in tariffs; a summary of the favorable and unfavorable factors in the outlook for the railways of each country.

The general secretary of the Congress is J. Nunez Brian, who may be addressed at the "Comision International Permanente, Congreso Panamericano de Ferrocarriles, Paseo Colon 185, Buenos Aires, Argentina."

Freight Car Loading

Loadings of revenue freight for the week ended June 2 totaled 837,520 cars, the Association of American Railroads announced on June 7. This was a decrease of 44,917 cars or 5.1 per cent below the preceding week, an increase of 26,822 cars or 3.3 per cent above the corresponding week last year, and an increase of 169,911 cars or 25.5 per cent above the comparable 1943 week.

Loading of revenue freight for the week ended May 26 totaled 882,437 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading			
District	1945	1944	1943
Eastern	163,604	161,058	165,079
Allegheny	190,374	199,519	191,815
Pocahontas	56,043	56,918	58,433
Southern	130,203	123,425	120,710
Northwestern	132,658	133,295	133,956
Central Western	132,272	122,023	121,651
Southwestern	77,283	72,583	63,039
Total Western Districts	342,213	327,901	317,746
Total All Roads	882,437	868,821	853,783

Cumulative Total

21 Weeks ... 16,897,283 16,946,315 16,327,984

In Canada.—Carloadings for the week ended May 26 totaled 70,250, as compared with 73,155 for the previous week and 67,952 cars for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

Total for Canada:	Total Cars Loaded	Total Cars Rec'd from Connections
May 26, 1945	70,250	35,373
May 27, 1944	67,952	38,454
Cumulative Totals for Canada:		
May 26, 1945	1,396,229	777,242
May 27, 1944	1,440,613	834,647

Representation of Employees

Mexicans brought into this country to work on the railroads under the terms of the basic agreement dated April 29, 1943, between the U. S. and Mexican governments are eligible to vote in elections for the determination of collective bargaining representatives, for they have been found by the National Mediation Board to be employees of the railroads as that term is defined in section 1, fifth, of the Railway Labor Act. N. M. B. passed upon the question in paving the way for the election which is now being held among employees of the Atchison, Topeka & Santa Fe's

maintenance of way and structures department. The case is docketed as No. R-1430.

In qualifying the Mexicans, the board upheld the position taken by the Brotherhood of Maintenance of Way Employees which sought the election to challenge the present representation of the employees by the Association of Maintenance of Way and Miscellaneous Employees, affiliated with the United Railroad Workers of America, Congress of Industrial Organizations. When the proceeding got under way the Association was an independent union, but it later advised the board of its affiliation with the C. I. O. Carrier representatives appearing at the board's hearing on the status question advised that the Mexicans have been considered by management to be railroad employees as defined in the Railway Labor Act.

In other representation cases, the board has made public results of recent elections wherein the Brotherhood of Railroad Signaling extended its coverage of Florida East Coast signal department employees to include signal foremen; and the National Council, Railway Patrolmen's Union, American Federation of Labor, has extended its coverage of Chicago, Rock Island & Pacific police department employees to include sergeants and special agents. On the Pennsylvania-Reading Seashore Lines the Brotherhood of Railroad Shopcrafts of America has retained its right to represent carmen, their helpers and apprentices (including coach cleaners) and sheet metal workers, helpers and apprentices. The shopcrafts brotherhood won an election in which it was opposed by the Brotherhood of Railway Carmen of America and the Sheet Metal Workers International Association, both operating through the Railway Employees Department, A. F. of L.

Correction—N. & W. Class J Locomotives

In the June 2 issue the grate area of the Norfolk & Western Class J passenger locomotives was shown, in the second paragraph, on page 971, as 197.7 sq. ft. The correct figure is 107.7 sq. ft. The boiler is equipped with Type E superheater and not Type H as was stated on page 974.

Would Let Surface Carriers Operate Air Lines

Amendment to the Civil Aeronautics Act to remove all obstacles to the ownership and operation of airlines by surface carriers and the transfer of all regulatory authority over all forms of transportation to a single federal agency reporting directly to Congress, was urged this week by Edward A. Moree, vice-president of the Transportation Association of America, in testimony before the House committee on interstate and foreign commerce. The committee, which was holding hearings on H. R. 3170, the federal-aid airport bill sponsored by its chairman, Representative Lea, Democrat of California, also has before it other proposed legislation in the aviation field, including measures to rewrite the Civil Aeronautics Act.

Mr. Moree described the present policy of that act and the Civil Aeronautics Board as apparently controlled by a "Caspar Milquetoast, Please-Fence-Me-In" phil-

osophy, calculated to continue an airline monopoly of government-subsidized air transport, immune from participation by other kinds of qualified transport agencies and walled-off against any effort to bring about coordination of transportation facilities through the avenue of common ownership. He stated that the Association is not opposed to airport development, although it does not favor all features of the proposed program.

Favors Airport Subsidies—The Association, Mr. Moree went on, is in favor of the general policy of fostering air transportation through government assistance for some years to come. At the same time it takes the position that everything possible be done by both the airlines and the government to encourage private capital to enter the field of air transport with a view to "letting Uncle Sam off the hook" at the earliest possible date.

The Association further believes that "it is unsound public policy for Congress to permit investors in airline securities to profit at the expense of the taxpayers." It contends that "this is a situation which may easily develop (if it has not already done so) under the present scheme of regulation of airline transportation by the same authorities that are charged with far-reaching responsibility for promoting airline development."

Donald Conn Warns Against "Streamlining" I. C. C.

"Congress should except the function of regulation of transportation agencies from any authorization granted to the President to reorganize or streamline the executive branch of government," declared Donald D. Conn, executive vice-president of the Transportation Association of America, before a special luncheon of the Milwaukee Traffic Club on June 8.

"Regulation of all types of common carriers should be committed to one federal agency," Mr. Conn went to say, "redesigned as to its organization so as better to keep pace with the needs of the transportation industry and the changing economic cycles affecting agriculture and all industry.

"Government ownership of transportation has been creeping up on this country ever since 1920. We have been pursuing an archaic national policy that invites it—outmoded principles of regulation that result in vast wastes of both public and private capital and in cycles of bankruptcies that destroy the confidence of private investors; the promotion of one type of transport as against another at public expense; extending the benefits of government financing to one type of transportation but denying it to another—with a constant increase in the over-all price of transportation services to the public.

"Government ownership would mean that no form of transport would be left out of such a pattern. Four million persons would be added to the federal payroll, an additional twelve million votes for bureaucracy; the largest single unit of buying power in America would be transferred to government, and freight rates would be subjected to political manipulation, the most powerful weapon to regiment all enterprise."

Medal of Merit to Eastman

In a ceremony in the office of Major General Charles P. Gross, chief of transportation of the Army, the late Joseph B. Eastman was posthumously awarded the Medal for Merit on June 4. Presentation was made to Mr. Eastman's sister, Miss Elizabeth Eastman, by General Gross, with the adjutant general, Major General James A. Ulio, reading this citation:

"The Office of Defense Transportation, under the leadership of Mr. Eastman, cooperated in full measure with the Army in meeting its critical wartime transportation problems. His broad experience and wisdom were given unstintedly to the Armed Forces. His sound transportation policies were of immeasurable assistance to the Army in enabling it to move personnel and supplies in numbers and quantities without precedent in its history. The value of his contribution to the war is incalculable."

The Medal for Merit is presented by the President or at his direction and is awarded by a board consisting of the Secretaries of State, War and the Navy. Mr. Eastman's award and citation was signed by President Roosevelt prior to his death. Among those attending the ceremony in General Gross' office were John J. Pelley, president of the Association of American Railroads, J. M. Hood, president of the American Short Line Railroad Association, Col. J. Monroe Johnson, director of the Office of Defense Transportation, and Ted V. Rodgers, president of American Trucking Associations.

Declaring that orderly regulation of transportation was in jeopardy, Mr. Conn pointed to the conflict in authority between anti-trust statutes and regulatory laws.

"The two principles of control will not mix," he said. "The suits of the anti-trust division against the railroad industry are plainly designed to destroy all common accord and action within that industry—to compel disastrous competition in rates and services—to make private ownership unworkable. The real defendants in these suits are the shippers and consumers."

Would Tighten Law on Black Market Ticket Sales

Legislation to make illegal the exaction of compensation, in addition to the tariff rates, for passenger tickets, except in cases of travel agencies, hotels and others who make legitimate service charges, has been proposed by Attorney General Biddle in a letter to the Speaker of the House of Representatives. The letter, which was accompanied by a draft of a proposed bill, pointed out that if the excess charges are exacted by railroads or railroad employees they are violations of existing law; it added that legislation was desirable to cover other forms of transportation and to reach persons other than carrier employees.

The Attorney General further stated that

the Federal Bureau of Investigation had found that there were serious abuses in the sale of passenger transportation accommodations. The letter was referred to the House committee on interstate and foreign commerce.

April Earnings in Canada

The two principal Canadian railways reported April earnings and expenses as follows:

Canadian National		
	April	1945
Gross Expenses	\$35,752,000	\$759,000
	27,978,000	297,000
Operating Net* 4 Months	\$7,774,000	\$1,056,000
Gross Expenses	\$136,595,000	\$3,226,000
	114,143,000	268,000
Operating Net*	\$22,452,000	\$2,958,000

Canadian Pacific		
	April	
Gross Expenses	\$26,400,245	\$646,818
	23,386,362	1,537,501
Net* 4 Months	\$3,013,883	\$890,683
Gross Expenses	\$100,032,465	\$568,955
	91,002,093	4,072,272
Net*	\$9,030,372	\$4,641,227

* Net as shown in this tabulation, for the C.N.R., is equivalent to "Net Operating Revenue" in U. S. accounting terminology; while the net shown for the C.P.R. corresponds to "Net Railway Operating Income" in U. S. terms. † Decrease.

Allow Time to Protest Southern Grain Rate Decision

The effective date of the Interstate Commerce Commission's order making certain adjustments in proportional and combination rates on grain and grain products to the South has been postponed to November 1 by a commission order which also extends to July 10 the time within which petitions for reconsideration may be filed. The decision, which was in No. 17000, Part 7-A, I. & S. No. 4208, and related proceedings, was reported in *Railway Age* of April 14, page 671. Petitions for postponement of the effective date had been filed by the southern, western and southwestern carriers.

Metzman Reports to Employees N. Y. C. Operations in '44

In an eight-page pamphlet, President Gustav Metzman recently issued a report for 1944 to the employees of the New York Central, reminding each of them of his personal "stake" in these results, and thanking him for his "loyalty and efficiency" in the "huge transportation job" of this railroad.

In the president's statement, the employee is given the year's freight and passenger traffic figures, is told "where the money came from" and "where the money went," is informed of personnel figures, employee training courses, research and post-war planning, and equipment in service and on order.

Tiny illustrations are used in conjunction with the income table to identify at once the various headings—mail bags for mail, waiters for dining car service, and the like.

Four drawings reveal that freight brought in 63.7 cents of the railroad's "income dollar" in 1944; that the passengers' contribution was 24.6 cents; other operations, 9.0

cents; and investments 2.7 cents. At a glance, the employee can see how the income dollar was disbursed in 1944. Wages are shown to total 44.6 cents, taxes 13.4 cents, fuel and other materials and supplies, 20.1 cents, wear and usage of facilities 5.6 cents, other costs of operation 5.2 cents, interest and rentals, 6.2 cents, and net income 4.9 cents.

President Metzman, in calling attention to the 136,000 employees at the end of the year, tells of the 28,945 in the armed services, and of the 2,218 honorably discharged and returned to the System. He cites the training courses, "designed to promote the skills of experienced employees and to qualify new employees for their work," mentioning the 12,050 who already have completed these courses and the 2,573 now enrolled for such training.

Nor is the matter of the railroad's credit omitted, the employee being informed of the "important progress in recent years in improving its financial credit by substantially reducing the total amount of its debt." "From 1932 to 1945," Mr. Metzman points out, "there has been a net reduction of \$250,627,664 or 22.6 per cent in the total amount of debt of the company and its lessor companies."

Looking ahead, the president predicts a "good" future for the railroads, "under a sound national transportation policy—a policy of self-supporting transportation."

Rock Island "Rocket" Offers New Kansas City-Texas Service

To provide better through service between Kansas City, Mo., Fort Worth, Tex., and Dallas, the Chicago, Rock Island & Pacific began operating the "Texas Rocket" between those and intermediate points on June 3. This train will replace the service

of Rockets No. 511-512 which now operate between Kansas City and Oklahoma City, Okla.

The Texas Rocket, operating via Oklahoma City, leaves Kansas City at 9:10 a. m., arrives at Fort Worth at 9:30 p. m., and at Dallas at 10:30 p. m. Returning, the train leaves Dallas at 8:00 a. m., Fort Worth at 8:45 a. m., and arrives at Kansas City at 9:20 p. m.

The southbound Texas Rocket will connect with the Rock Island's westbound Golden State Limited which arrives at Kansas City at 8:50 a. m., and the northbound Rocket will make connections with the eastbound Golden State.

Reading to Test Radio

The Reading will make an extensive series of experimental tests of space radio for train communication, using equipment recently developed by the Electronics Division of McGuire Industries, Inc. The tests are scheduled to begin about July 15 and will cover the operation of radio in the 152-162 mc. band in freight yards, terminals, and for end-to-end communication on freight trains.

Dominion Government Turned Down Chance to Buy C.P.R.

Reconstruction Minister C. D. Howe said at an election meeting in Ontario last week that "during the war years when English investments in Canada were being liquidated, the Canadian government could have obtained a block of Canadian Pacific Railway stock that would have given the government controlling interest in the railway, but we did not do so."

"I think it is common sense that if the government operated both railways it would just be a matter of months before

amalgamation would result," Mr. Howe said. "Under a Liberal administration there will never be amalgamation of Canadian railways under government control."

Mr. Howe said the opportunity which would have resulted in the government's obtaining control of the C.P.R. was refused because under private ownership of one railway and public ownership of another the nation is best served.

Urge Signal-Connected Derails in High-Speed Territory

As a result of a side collision on the Missouri Pacific at Clafin, Kan., on April 2, which was caused, according to the report of an investigation by the Interstate Commerce Commission under the supervision of Commissioner Patterson, by a train fouling the main track immediately in front of an opposing train, the commission has recommended that this road install derails coordinated with electric switch locking at clearance points on sidings in automatic block signal territory on the subdivision involved.

Brake Application Failed—Clafin is 13.6 miles east of Hoisington on the road's single-track main line from Kansas City to Pueblo, Colo., in territory where trains are operated by timetable, train orders and an automatic block signal system. The trains involved were eastbound 7-car passenger No. 24, the "Royal Gorge," and a westbound 39-car freight, No. 77. Both trains held orders establishing Clafin as a meeting point, and the freight entered the siding at that point and stopped in the clear about 8:09 a. m. Up to that time the brakes had functioned properly, but when it moved westward on the siding a few minutes later, a proper brake application was not obtained, according to the engineer, when he attempted to stop with a service brake pipe reduction at the west clearance point of the siding.

When the freight was brought to a stop with an emergency brake application, the engine had passed the clearance point and fouled the main track, where it was struck, about 8:15 a. m., by No. 24, which was moving about 40 m. p. h. Three employees were killed and one passenger and six employees were injured. The freight engine was overturned and the passenger engine was derailed and stopped on its side, headed westward. The first three passenger cars were derailed and badly damaged, as were both engines.

The automatic signals immediately west of Clafin, controlling the movement of eastbound trains, are 153 ft. and 7,624 ft., respectively, west of the fouling point where the accident occurred. The more distant of these signals displayed proceed when No. 24 passed it, while the second signal displayed proceed until No. 24 was within a short distance of it. Its indication then changed to stop-and-proceed, responding to the entry of the freight engine into the fouling section of the siding, and the engineer of No. 24 applied the brakes in emergency, but the interval was not sufficient for the train to be stopped.

Need for Protection—The report pointed out that the average daily movement in the locality of the accident was



C.N.R. Photo

South African Railways & Harbours Officers Take in Montreal

On tour of Canada, inspecting railway facilities to obtain ideas for post-war development of railways in South Africa, three high ranking S. A. R. & H. officers recently stopped off at the C. N. R.'s Central station and were greeted by a reception committee from the Canadian National. The above photograph shows two of the South African officers, H. V. Taylor, superintendent, operating, and F. Jackson, resident engineer, both of Johannesburg. (A third member of the delegation, Dr. D. L. Douglas, now of Washington, D. C., and advisory engineer for the S. A. R. & H., was not present when the photograph was taken). The group here shown includes, from left to right: W. H. Kyle, superintendent, Montreal terminals; Mr. Jackson; W. M. Armstrong, C. N. R. general manager telegraphs, Toronto; A. J. Lomas, general superintendent, Montreal district; Mr. Taylor; and J. F. Pringle, vice-president and general manager, Central region, C. N. R.

20.5 trains during the 32 days preceding April 2. Maximum authorized speeds are 85 m. p. h. for streamlined trains, 70 m. p. h. for regular passenger trains, and 50 m. p. h. for freights. "In view of the nature and volume of traffic on this line," it observed, "all available facilities for adequate protection should be provided. Derails located at the clearance points and arranged to operate in conjunction with electrically locked switches would prevent trains from fouling the main track immediately in front of an approaching train, such as occurred in the present case."

Prior to this collision, the report noted, the commission has investigated in the past two years eight accidents "in which trains, without providing adequate protection, fouled the main track immediately in front of approaching trains. . . . These accidents resulted in the death of 45 and the injury of 202 persons. Of these, seven occurred in territories where the operation was by timetable, train orders and automatic block signal system, and one occurred in territory where the operation was by timetable and train orders only."

Refunding Issues Have Cut Charges (Continued from page 1026)

Cash Position Improved—At the close of March, the Class I roads had over \$100,000,000 more in net working capital than they had at the close of 1944's first quarter. Also, they had about \$36,000,000 more cash on hand and about \$90,000,000 less accrued taxes. With respect to taxes, the issue includes considerable discussion and data on federal income and excess profits tax accruals. A table shows by roads the excess profits tax accruals of Class I line-haul railways for 1944, the total of such accruals being \$1,017,649,419.

Eighty-six Class I roads were in the excess-profits tax brackets in 1944 as compared with 70 in 1943. "Included in the 1944 group," the bureau said, "are 15 companies whose properties were in receivership or trusteeship as of the close of that year. Such companies reported excess profits taxes in the amount of \$168,138,731."

While the normal and surtax accruals in 1944 were 35.6 and 37.7 per cent, respectively, lower than in 1943, the excess profits taxes were up 14.9, making the net decrease in total federal income taxes in 1944 only 2.3 per cent. In this connection it is explained that "because of the general exhaustion of 'excess profits credit carry-overs,' a larger proportion of the taxable income was subject to excess profits tax in 1944 than in 1943, resulting in a related reduction in the proportion of taxable income subject to normal and surtax."

Who Carried the 1944 Load?—Preliminary estimates of the total intercity ton-miles of freight carried by the several transport agencies in 1944 show the railroads' share at 69.5 per cent as compared with 72 per cent in 1943. Shares of all agencies fell off from the previous year, save that of the pipe lines which was up from 9.4 per cent to 12.4 per cent. Commenting on the changes brought on by the



New Signs in Washington Terminal

One of 16 advertising displays, whose installation in Washington Union station began with the recent lifting of the "brown-out," like those in Grand Central terminal, New York, (see *Railway Age*, September 16, 1944, page 456), the new displays give the illusion of three full dimensions. Animated and with special lighting effects, the signs are being installed by the Terminal Advertising Corporation of Washington.

* * *

war, the bureau notes that "the highway truck was the only transport agency estimated to have shown an actual decrease (about 16 per cent) in the number of ton-miles from 1941 to 1944. The ton-miles on the railways increased 55 per cent from 1941 to 1944, on the pipe lines, 71 per cent, and on the inland waterways, three per cent."

The total 1944 intercity traffic was estimated at 1,071 billion ton-miles, as compared with 1,020 billion in 1943 and 757 billion in 1941. The railroads produced 745 billion ton-miles of the 1944 total while all trucks (for-hire and private) are estimated to have produced 48 billion.

The bureau's regular monthly review of railway operating results noted that the freight revenue of the Class I roads in April, on a daily basis, was 1.8 per cent higher than March and 5.9 per cent above April, 1944. The freight revenue index (based on the 1935-39 monthly average of 100) was 236.4 for April, the highest since December, 1943. The freight revenue index for March was 232.1, and for February it was 221.4. April's passenger revenue index at 381.2 was off fractionally from the previous month's 381.5, and it was also lower than for any month since April, 1943. April passenger revenues on a daily basis were approximately the same as those for March, but they were off 11.9 per cent from April, 1944.

Loading Forecasts—The bureau's traffic forecast for the present month indicates that carloadings will be 1.1 per cent above the June, 1944, level. This net figure results from estimated increases of 0.8 per cent in carload loadings and 3.1 per cent in

I.C.I. loadings. Loadings of carload freight for this year's first half are now estimated by the bureau at 18,551,942 cars, a decrease of 56,138 cars or 0.3 per cent below the total for the first six months of 1944. The forecast for July through November indicates that carload loadings in that period will be 0.7 per cent above those of the same 1944 months.

Data presented on freight and passenger operating ratios show that they were 71.73 and 74.31, respectively, for 1944 as compared with 66.23 and 70.62 in 1943. Attention is called to the wartime improvement in the passenger service ratio which was 114.02 in 1941, and above 100 for the 12 years following 1929. In the Southern region the 1943 and 1944 passenger ratios were more favorable than those of the freight service.

Data on overtime payments to employees show a falling away in March from February's all-time high when overtime amounted to 15.55 per cent of total compensation. The record amount, \$49,833,077, was paid in January, but the percentage to total compensation was less than in February, being 15.13. March overtime payments totaled \$44,189,736 or 13.27 per cent of total compensation.

Figures on rail-highway grade crossing accidents show that in 1944 such accidents brought death to 1,840 persons and injuries to 4,216. These compare with 1,732 deaths and 4,217 injuries in 1943. Motor vehicles were involved in 86.17 per cent of the 1944 crossing accidents as compared with 88.18 per cent in the pre-war year 1939.

Supply Trade

The Ready-Power division of the Ready-Power Company, Detroit, Mich., was presented the Army-Navy "E" award for outstanding production on May 29.

The Macwhyte Company, Kenosha, Wis., has been awarded the Army-Navy "E" for the fourth time for continued outstanding achievement in war production.

The Detrex Corporation, Detroit, Mich., has established new and larger Pacific Coast region offices at 318 West Ninth street, Los Angeles, Calif.

The Malabar Machine Company, Los Angeles, Cal., has appointed Standard Car Sales, Inc., Chicago, its railroad representative for all railroads having sales or mechanical offices in the Chicago territory.

F. D. Haberkorn has been appointed assistant sales manager of the Central Sales division of the Caterpillar Tractor Co., succeeding F. E. Rusher, resigned. C. A. Barabe, Jr., has been appointed assistant sales manager of the Eastern Sales division.

The Old Dominion Iron & Steel Corp. has been newly chartered to acquire all physical properties of the Old Dominion Iron & Steel Works, Inc., Belle Isle, Richmond, Va., for the manufacture of welded steel products. The principal stockholders are the new officers and include G. E.

Hoppe, Jr., president; A. A. Adcock, vice-president and R. A. Trombold, secretary-treasurer. All were formerly with the Richmond Engineering Company. Present operations, which have been on a limited scale for several years, will be continued while buildings and equipment are being made ready for the new product. All personnel will be retained, including R. H. Wayt, vice-president and general manager of the old corporation and John C. Webb, superintendent of the rolling mills.

Nelson C. Dezendorf, director of the distribution staff of the **General Motors Corp.**, has been appointed director of sales of the **Electro-Motive Division** of General Motors, with headquarters at LaGrange, Ill.

Daniel A. Herrick has been appointed manager of sales of the newly-created d'Este division of the **American Chain & Cable Co.**, with headquarters at Reading, Pa. The d'Este line of valves has been manufactured by American Chain & Cable for some time and Mr. Herrick has been active in the sale of these products.

Goodall-Sanford, Inc., has announced the election of the following officers of Goodall Fabrics, Inc., its recently formed selling division: Elmer L. Ward, president and treasurer; F. Everett Nutter, secretary; Paul E. Carr, executive vice-president and general manager; Jud E. Williams, vice-president and general sales manager; and Arthur Jones, assistant treasurer.

W. F. Boyle has been appointed assistant to the vice-president to direct the Pacific Coast district office of the **Baldwin Locomotive Works** and the **Pelton Water Wheel Company**, wholly-owned subsidiary. Mr. Boyle will temporarily assume the duties at the San Francisco, Calif., headquarters formerly performed by F. R. Kohnstamm, who has been relieved due to illness. C. G. Crawford will continue as acting general manager of Pelton and in addition will be responsible for all industrial sales and service in the Pacific Coast district. C. D. Allen continues in charge of railroad sales and service at San Francisco. Mr. Boyle served in various executive engineering capacities with the Westinghouse Electric & Manufacturing Co. following his graduation from the Pratt Institute in 1927. Most recently he was sales manager of the aviation turbine division of Westinghouse.

OBITUARY

W. T. Brassil, vice-president and general manager of the Adams & Westlake Co., with headquarters at Elkhart, Ind., died in a Chicago hospital on June 3.

Byers W. Kadel, consulting engineer for the Symington-Gould Corporation since 1920 with headquarters in Baltimore, Md., died May 28. Mr. Kadel was employed as draftsman and car designer for the Norfolk & Western from 1909 to 1918 and served as assistant engineer with the United States Railroad Administration from 1918 to 1920.

Equipment and Supplies

LOCOMOTIVES

New York, Ontario & Western Begins Dieselization

On May 31, R. L. Gebhardt and F. J. Sieghardt, trustees, announced that having received Interstate Commerce Commission approval of the required financing, the New York, Ontario & Western will undertake immediately the first step in a conversion which it expects ultimately will make it the first Class I railroad to be operated entirely by Diesel-electric locomotives. The trustees estimated that complete replacement of steam by Diesel-electric power would result in operating economies of \$1,000,000 yearly, which, based on present revenues, would yield the railroad a net annual income of about \$500,000, as compared with a net loss of \$2,947,253 after all charges in 1944 and with a net loss of \$94,504 in the first three months of this year.

The commission's authorization permits the company to sell \$1,695,000 of equipment trust certificates to the Reconstruction Finance Corporation. The proceeds, with other funds, will be used to pay the Electro-Motive division of the General Motors Corporation \$2,244,073 for four 5,400-hp. and one 2,700-hp. locomotives. An arrangement has been made for the Standard Oil Development Company to advance the road \$249,341, the cost of the 2,700-hp. locomotive, in return for performance data covering the use of this engine in freight and passenger service over a three-year period. The trustees also have agreed to sell to the Machine Tool & Equipment Corp. for \$501,000, certain steam locomotives, cars and rails no longer needed and part of the proceeds received will be applied toward the new equipment.

The company had 87 steam locomotives in service at the end of last year, comprising 54 freight, 26 passenger and seven switching engines. Average age of these locomotives is thirty years. Having no local sources of locomotive coal, the company must bring in its locomotive fuel at a cost per ton which it estimates at 75 per cent greater than the price on railroads generally.

The New York, Ontario & Western has about 550 route miles of line, much of it with heavy grades and curvature. The saving of \$1,000,000 annually in operating costs expected from the change to the new power is based on a survey made by General Motors in 1944, in which the trustees and the railroad's officers have concurred.

As part of the rehabilitation program, the trustees are to improve the Oswego dock facilities on Lake Ontario to permit their use by lake steamers with dimensions that can be accommodated by the Welland Canal, and have completed agreements with large shippers for the docks' use. The company recently enlarged its two piers at Weehawken, N. J., to increase their annual transfer capacity to more than 1,000,000 tons of freight. Previously, the company

had been unable to accept import freight through New York harbor.

Increased anthracite production in the Scranton, Pa., district and opening of new coal routes by the railroad are expected by the trustees to increase the movement of this freight, once the biggest source of the line's earnings. Other post-war developments are expected to increase the company's annual gross revenues by \$520,000 from the \$9,244,351 total reported for 1944.

Further economies are expected to result from the abandonment of 73 miles of unprofitable branch lines for which approval has been sought from the Interstate Commerce Commission and from the conversion of 110 miles of double-track main line to single-track and the abandonment of various stations and structures.

U.N.R.R.A. Has 280 Locomotives on Order

The United Nations Rehabilitation and Relief Administration now has on order 280 locomotives, 180 with American builders and 100 with United Kingdom builders. The locomotives are scheduled for Greece, Yugoslavia, Poland, Czechoslovakia and Albania. Countries of western Europe with foreign exchange available for their own purchases do not come under the U. N. R. R. A. program. Of the 180 locomotives on order with American companies, 115 are scheduled for delivery in the fourth quarter of this year, 50 by the Baldwin Locomotive Works, 40 by the American Locomotive Company and 25 by the Lima Locomotive Works, and 65 in the first quarter of 1946, 40 by Baldwin and 25 by Lima.

The SOUTHERN has ordered six 5,400-hp. Diesel-electric freight locomotives and fourteen 1,000-hp. Diesel-electric switching locomotives from the Electro-Motive division of the General Motors Corporation.

The CORPORACION PERUANA DEL SANTA, Peru, has ordered 25 40-ton hopper cars equipped with roller bearings, aluminum superstructure and steel underframes, from the Mount Vernon Car Manufacturing Company, a division of the H. K. Porter Company. The cars will be used for the transportation of coal, ore, etc., from mines located on the river Santa and over mountains to the port of Chimbote. The H. K. Porter Company also is building four 65-ton Diesel-electric locomotives for this South American company. The cars and locomotives will operate on a 4.7 per cent grade and at some points reach an altitude of 9,000 ft. above sea level.

The DENVER & RIO GRANDE WESTERN has placed an order with the Electro-Motive division of the General Motors Corp., for three 5,400-hp. Diesel-electric freight locomotives, to be delivered during the fourth quarter of this year. At the same time it was announced that the D. & R. G. W. has purchased from the Norfolk & Western 11 steam locomotives, four of which are for passenger and seven for freight service.

As reported in the *Railway Age* of June 2, page 1000, the UNION PACIFIC, the CHICAGO & NORTH WESTERN and the SOUTH-

UNION PACIFIC jointly have ordered one 6,000-hp. Diesel-electric locomotive; the U. P. and the North Western jointly have ordered one 6,000-hp. and one 4,000-hp. Diesel and the U. P. alone has ordered one 4,000-hp Diesel locomotive and three 2,000-hp. Diesel units. This equipment will be built by the Electro-Motive division of the General Motors Corporation. The 26 Diesel switchers reported ordered by the Union Pacific were allocated fifteen to Electro-Motive, ten to the American Locomotive Company and one to Fairbanks, Morse & Co.

PASSENGER CARS

U. S. to Spend \$20,000,000 for Troop Cars

The Defense Plant Corporation, at the request of the Office of Defense Transportation, has authorized the acquisition of additional troop sleepers and kitchen cars at a cost of about \$20,000,000. This equipment will be used in moving troops in this country during the shift of the armed forces from the European theater to the Pacific. It will be operated by the Pullman Company for the government agency, which will retain title. It is understood that 1,200 troop sleepers and 400 kitchen cars will be built under this authorization.

SIGNALING

The UNION SWITCH & SIGNAL COMPANY is supplying the T. L. Rosenberg Company of Oakland, Cal., with the materials necessary for the installation of automatic crossing protection at a single-track crossing of the Sacramento Northern with the Bay Point & Clayton at Clyde, Cal. Searchlight signals are being used, with the order including highway crossing flashing light signals for protection of highways located adjacent to the railroad crossing.

Construction

CHESAPEAKE & OHIO.—This railroad has awarded a contract for replacement of a boiler house and boilers at its Huntington, W. Va., shops without interrupting railway operation, at an estimated cost in excess of \$600,000, to the Rust Engineering Company, Pittsburgh, Pa. In the first stage of the work, four of six existing boilers will be removed while the remaining two continue to furnish power. Half of the building will be torn down and replaced by a new structure. Two new boilers will be installed and steam generated to take over the power supply job. Then the remaining two boilers and the remaining section of the old building will be removed and replaced by a new structure and two new boilers.

UNION PACIFIC.—This road has begun a project of revising track and freight facilities at Laramie, Wyo., at a cost of \$250,000. The work will include construction of 30,123 ft. of additional yard tracks and the replacing of the present freight house, platforms and yard office with a new one-story building.

TRADE PUBLICATIONS

The Forest Industries Blaze New Trails.—This is an attractive 36-page booklet published by the Timber Engineering Company, Washington, D. C., illustrated in five colors, which recites the long story of wood's usefulness to man and describes the current technological developments of wood as an engineering medium. It predicts the dawn of a new "Age of Wood" and covers pictorially and in text such diverse research projects and developments as plastics from impregnated sawdust, chemical bending and seasoning of wood, molded products, production of various chemicals from waste wood, and tests of flat timber trusses under long-time loading. Also included is a brief résumé of some of the outstanding uses of wood for war purposes.

Financial

ALTON.—*Promissory Notes.*—Division 4 of the Interstate Commerce Commission has authorized this road to issue \$314,000 of promissory notes in evidence, but not in payment, of the unpaid portion of the cost of 5 1000-hp. Diesel-electric switching locomotives purchased from the American Locomotive Company under a conditional sale agreement at \$78,500 each. The notes were financed on a 1.5 per cent annual interest basis by the First National Bank of Chicago.

ATLANTA, BIRMINGHAM & COAST.—*Annual Report.*—The 1944 annual report of this road shows a net income, after interest and other charges, of \$403,743, as compared with a net income of \$553,542 in 1943. Selected items from the income statement follow:

	1944	Increase or Decrease Compared With 1943
RAILWAY OPERATING REVENUES	\$7,873,231	+\$661,935
Maintenance of way and structures	1,353,822	+351,944
Maintenance of equipment	1,229,780	+206,965
Transportation	3,117,634	+415,194
TOTAL OPERATING EXPENSES	6,311,263	+999,263
Operating ratio	80.16	+6.5
NET REVENUE FROM OPERATIONS	1,561,968	-337,328
Railway tax accruals	778,785	-188,567
RAILWAY OPERATING INCOME	783,182	-148,760
Total rents—Dr.	415,119	-1,841
NET RAILWAY OPERATING INCOME	368,063	-146,919
Total other income	45,574	-5,135
TOTAL INCOME	413,637	-152,054
MISCELLANEOUS DEDUCTIONS FROM INCOME	9,461	-262
FIXED CHARGES	433	-1,994
INCOME BALANCE TRANSFERRED TO EARNED SURPLUS	403,743	-149,798

BALTIMORE & OHIO.—*Equipment Trust Certificates.*—Division 4 of the Interstate Commerce Commission has authorized this road to assume liability for \$4,680,000 of series O equipment trust certificates, sold at 100.073 to Salomon Brothers & Hutzler

and others with a dividend rate of 2 per cent annually, in connection with the purchase of five 2-8-4 type freight locomotives, seven 4,000-hp. diesel-electric passenger locomotives, and 500 50-ton box cars. (Previous item in *Railway Age* of May 26, page 960.) The report noted that this road, since November 8, 1939, has retired more than \$100,000,000 of outstanding debt and reduced fixed charges by \$5,548,187.

BALTIMORE & OHIO.—*Financial Adjustment.*—As a step in its pending plan of last September, for a further adjustment of its indebtedness, as approved by the Interstate Commerce Commission (reported in *Railway Age* of March 24, page 568), Division 4 of the commission has authorized the sale to the Reconstruction Finance Corporation of \$84,563,276 of this company's 4 per cent collateral trust bonds due in 1965, in order that an equal principal amount of matured securities of the company, now carried by the R. F. C. in default, may be refunded. Approval was conditional, subject to certain other debt adjustments under the plan. Collateral now held for the matured notes would be deposited as security for the new bonds, subject to release or liquidation under prescribed conditions.

As required by law, the division's approval of the R. F. C. transaction was based on a finding that this company is "reasonably to be expected, on the basis of present and prospective earnings, to meet its fixed charges without a reduction thereof through judicial reorganization, provided the plan of adjustment dated September 20, 1944, as amended, becomes effective substantially as approved."

CHICAGO, BURLINGTON & QUINCY.—*To Pay Dividends Semi-Annually.*—On May 25, company returned to a policy of semi-annual dividends by declaring \$2.50 on its capital stock payable June 26. During the past three years the company has declared one dividend of \$3 annually.

CHICAGO, BURLINGTON & QUINCY.—*Trackage Rights.*—Examiner J. S. Prichard, in a proposed report, has recommended that the Interstate Commerce Commission deny this company's application for authority to operate in through service under trackage rights over the Chicago Great Western's line from Burch, Iowa, to a point near Talmage, 51 miles, in lieu of its own roughly parallel branch line, which it would then abandon. Denial of the trackage rights proposal would result from the examiner's recommended denial of authority to abandon the branch.

ELGIN, JOLIET & EASTERN.—*Annual Report.*—The 1944 annual statement of this road shows a net income, after interest and other charges, of \$2,399,741, as compared with a net income of \$1,239,635 in 1943. Selected items from the income statement follow:

	1944	Increase or Decrease Compared With 1943
Average Mileage Operated	391.6	...
RAILWAY OPERATING REVENUES	\$34,925,732	+\$2,075,892

Maintenance of way and structures	3,196,835	+\$445,583
Maintenance of equipment	9,261,826	-31,916
Transportation	12,292,639	+469,312
TOTAL OPERATING EXPENSES	25,757,346	+671,078
Operating ratio	73.75	-2.62
NET REVENUE FROM OPERATIONS	9,168,387	+1,404,814
Railway tax accruals	5,248,178	+592,160
Hire of equipment	720,830	-363,963
Net Joint facility rents	74,847	-992
NET RAILWAY OPERATING INCOME	3,124,532	+1,777,609
Non-operating income	85,456	+42
TOTAL INCOME	3,209,988	+1,177,650
Interest on funded debt	593,287	-6,711
TOTAL DEDUCTIONS FROM GROSS INCOME	788,001	+25,543
NET INCOME TRANSFERRED TO PROFIT AND LOSS	2,399,741	+1,160,105

DENVER & SALT LAKE.—*Annual Report.*—The 1944 annual report of this road shows a net income, after interest and other charges, of \$1,813, as compared with a net income of \$4,106 in 1943. Selected items from the income statement follow:

	Increase or Decrease Compared With 1943
Average Mileage	1944
Operated RAILWAY OPERATING REVENUES	\$3,345,911
Maintenance of way and structures	696,186
Maintenance of equipment	677,156
Transportation	1,136,049
TOTAL OPERATING EXPENSES	2,678,416
NET REVENUE FROM OPERATIONS	667,495
Railway tax accruals	367,670
NET RAILWAY OPERATING INCOME	874,663
TOTAL OPERATING AND OTHER INCOME	888,646
Interest, rents and miscellaneous	886,833
NET INCOME TRANSFERRED TO PROFIT AND LOSS	1,813
	-2,293

GULF, MOBILE & OHIO-ALTON.—*Merger.*—The Gulf, Mobile & Ohio has further modified its application to the Interstate Commerce Commission for authority to consummate a merger with the Alton (previous item in *Railway Age* of May 19, page 916) by an additional proposal whereby it would operate the line of the Kansas City, St. Louis & Chicago under lease and guarantee as to principal and interest that lessor's 4½ per cent first mortgage bonds.

INDIANA HARBOR BELT.—*Annual Report.*—The 1944 annual report of this road shows a net income, after interest and other charges, of \$748,169, as compared with a net income of \$608,254 in 1943. Selected items from the income statement follow:

	Increase or Decrease Compared With 1943
Average Mileage	1944
Operated RAILWAY OPERATING REVENUES	\$16,281,505
	-\$453,305

Maintenance of way and structures	1,801,117	+239,515
Maintenance of equipment	2,522,077	+680,829
Transportation	8,764,904	+273,277
TOTAL OPERATING EXPENSES	13,715,862	+908,962
Operating ratio	84.24	+7.71
NET REVENUE FROM OPERATIONS	2,565,643	-1,362,267
Railway tax accruals	1,015,445	-478,353
RAILWAY OPERATING INCOME	1,550,198	-883,914
Equipment rents—Net Dr.	797,394	-217,236
Joint facility rents—Net Dr.	253,049	96,543
NET RAILWAY OPERATING INCOME	499,756	-570,135
Total other income	1,349,149	+1,270,541
TOTAL INCOME	1,848,905	+700,406
Rent for leased roads and equipment	105,541	+948
Interest on funded debt	389,500	
TOTAL FIXED CHARGES	583,923	+80,472
NET INCOME	748,169	+139,915

PEORIA & EASTERN.—*Annual Report.*—The 1944 annual report of this road shows a net income, after interest and other charges, of \$678,528, as compared with a net income of \$845,278 in 1943. Selected items from the income statement follow:

	Increase or Decrease Compared With 1943
Average Mileage	1944
Operated RAILWAY OPERATING REVENUES	\$5,178,057
Maintenance of way and structures	850,282
Maintenance of equipment	745,424
Transportation	1,937,448
TOTAL OPERATING EXPENSES	3,759,923
NET REVENUE FROM OPERATIONS	1,418,134
Railway tax accruals	646,152
RAILWAY OPERATING INCOME	771,982
Equipment rents—Net Dr.	64,958
Joint facility rents—Net Dr.	63,325
NET RAILWAY OPERATING INCOME	643,699
Total other income	43,010
GROSS INCOME	686,709
TOTAL DEDUCTIONS FROM GROSS INCOME	8,180
NET INCOME	678,528
	-166,749

PITTSBURGH & WEST VIRGINIA.—*Offers Wheeling & Lake Erie Stock.*—The Pittsburgh & West Virginia has called for bids June 13 on its holdings of 59,400 shares of Wheeling & Lake Erie common stock. Proceeds, plus treasury funds, are to be used to retire on July 1 \$3,627,000 of Pittsburgh & West Virginia secured 4 per cent notes held by the Reconstruction Finance Corporation and \$3,000,000 of these notes held by the Pennroad Corporation.

SEABOARD AIR LINE.—*Purchase by Reorganization Committee.*—On May 31 the Seaboard Air Line, which has been in receivership for 14 years, was purchased at public auction for \$52,500,500 by the reorganization committee under the Seaboard organization plan. The committee's bid is sub-

ject to about \$18,000,000 of outstanding equipment trust obligations and unenclosed bond issues outstanding. The sale must be confirmed by the court before the property can be transferred to the new company.

SOUTHERN PACIFIC.—*Ownership of Branches.*—The Southern Pacific Railroad has asked the Interstate Commerce Commission to authorize its acquisition from the Central Pacific, at depreciated ledger value, its 143-mile Owenyo branch and 71-mile Keeler branch, both in California. The branch lines are operated by the Southern Pacific under lease, and both it and the Central Pacific are controlled by stock ownership by the Southern Pacific Company.

In another application, the Arizona Eastern, controlled by the Southern Pacific Company by stock ownership, has asked for authority to acquire from that company at their depreciated ledger value certain lines in Arizona which the Southern Pacific will continue to operate as lessee, namely: Phoenix to Tempe, 6.35 miles; Normal Junction to McQueen, 6.75 miles; Ray Junction to McQueen, 66.9 miles; Branaman to Burns, 7.33 miles; Normal Junction to Creamery, 1.72 miles; and a .016-mile spur at Hayden.

TORONTO, HAMILTON & BUFFALO.—*Annual Report.*—The 1944 annual report of this road shows a net income, after interest and other charges, of \$749,510, as compared with a net income of \$685,408 in 1943. Selected items from the income statement follow:

	Increase or Decrease Compared With 1943
Average Mileage	1944
Operated RAILWAY OPERATING REVENUES	\$3,897,589
Maintenance of way and structures	617,369
Maintenance of equipment	615,616
Transportation	1,005,957
TOTAL OPERATING EXPENSES	2,430,893
Operating ratio	62.37
NET REVENUE FROM OPERATIONS	1,466,696
Railway tax accruals	622,549
Equipment rents—Net Cr.	2,450
Joint facility rents—Net Cr.	73,360
NET RAILWAY OPERATING INCOME	919,957
Non-operating income	53,078
GROSS INCOME	973,035
Interest on funded debt	204,240
TOTAL DEDUCTIONS FROM GROSS INCOME	223,525
NET INCOME TRANSFERRED TO EARNED SURPLUS	749,510
	+64,102

* Includes reduced excess profits tax of \$462,668.

WICHITA FALLS & SOUTHERN.—*Extension of Notes.*—This road has asked the Interstate Commerce Commission to approve the extension to January 1, 1948, of the time for payment of a total of \$390,000 of notes now due and payable to the estate of Frank Kell, with interest to be paid thereon at the rate of 2½ per cent.

Average Prices Stocks and Bonds

	Last June 5	Last week	Last year
Average price of 20 representative railway stocks	55.88	56.44	40.37
Average price of 20 representative railway bonds	99.09	99.00	88.72

Dividends Declared

Atchison, Topeka & Santa Fe.—5% non-cumulative preferred, \$2.50, semi-annually, payable August 1 to holders of record June 29.
 Beech Creek.—50¢, quarterly, payable July 2 to holders of record June 17.
 Chicago, Burlington & Quincy.—\$2.50, irregularly payable June 26 to holders of record June 12.
 Dayton & Michigan.—8% preferred, \$1.00, quarterly, payable July 3 to holders of record June 16.
 New York & Harlem.—\$2.50, semi-annually, payable July 2 to holders of record June 15.
 Pittsburgh, Fort Wayne & Chicago.—common, 7% preferred, both \$1.75, both quarterly, both payable July 2 to holders of record June 11.

Abandonments

CHICAGO, BURLINGTON & QUINCY.—In a proposed report Examiner J. S. Prichard has recommended that the Interstate Commerce Commission deny this company's application for authority to abandon its 53-mile branch from Burch, Iowa, to Osceola, following institution of operation under trackage rights over a roughly parallel line of the Chicago Great Western from Burch to a point near Talmage. The Iowa State Commerce Commission and patrons of the branch objected to the proposal, which would lead to the discontinuance of local service by the Burlington in the territory affected.

The examiner held that operation of the branch, in freight service only, could be continued at a cost not appreciably greater than the Burlington's expense for the trackage rights operation, thus retaining local and interline traffic that would otherwise be lost. It was his conclusion that the company had not shown that the branch can be operated only at a loss, but that it merely had demonstrated that a saving would result from the abandonment. In view of a showing of "urgent public need" for the line under present conditions, Mr. Prichard held that its abandonment, "at least until the trucking situation in the tributary territory has been remedied," would cause "irreparable injury" upon industries dependent on the branch and now "helpless as far as other means of transportation are concerned."

MARSHALL, ELYSIAN FIELDS AND SOUTHEASTERN.—This road has abandoned its entire line extending from Marshall, Tex., to Cary's Spur, two miles.

TEXAS & PACIFIC.—Division 4 of the Interstate Commerce Commission has authorized this company to abandon a portion of a branch from Simmesport, La., to Gordon, about 11 miles, subject to the conditions for the protection of employees prescribed in the Burlington case, 257 I. C. C. 700.

AIR EXPRESS.—International air express shipments, not including traffic to and from Canada, showed an increase of 41.6 per cent for the first quarter of 1945 over the same period last year, the Air Express Division of Railway Express Agency has reported. A total of 75,077 shipments were handled during the first three months of the year, with outgoing shipments greatly outnumbering the incoming flow of traffic.

Railway Officers

EXECUTIVE

Harry G. Dow has been appointed vice-president of the newly created foreign department of the Great Northern, with headquarters at New York. William B. Hartz will succeed Mr. Dow as eastern traffic manager and John F. Burns will succeed Mr. Hartz as general agent, both with headquarters in New York.

R. C. Lauten, whose promotion to assistant vice-president of the Gulf, Mobile & Ohio, with headquarters at Mobile, Ala., was reported in the *Railway Age* of June 2, was born in Moultrie County, Ill., on November 27, 1896, and entered railway service in October, 1913, as a stenographer and clerk in the mechanical department of the Cleveland, Cincinnati, Chicago & St. Louis at Mt. Carmel, Ill. From July, 1914, to January, 1922, he served as a stenographer and clerk in the offices of the chief



R. C. Lauten

train dispatcher, the superintendent of telegraph and the division superintendent of the Chicago & Eastern Illinois at Danville, Ill., with the exception of 18 months' service in the Army. In January, 1922, he went with the Gulf, Mobile & Northern as secretary to the vice-president and general manager, with headquarters at Mobile, Ala., and in August, 1922, he was advanced to chief clerk to the vice-president and general manager. In October, 1934, he was advanced to assistant to the general manager and in October, 1940, he was promoted to assistant to the vice-president of the Gulf, Mobile & Ohio, the position he held at the time of his new appointment.

FINANCIAL, LEGAL AND ACCOUNTING

F. G. Minter, assistant comptroller of the Norfolk & Western at Roanoke, Va., has been appointed deputy comptroller, and J. W. Shields, auditor of disbursements at Roanoke, has been named to succeed him. C. R. Fichtenger, assistant to comptroller, has been advanced to auditor of disbursements replacing Mr. Shields. Mr. Shields, who was born on December

28, 1893, at Roanoke, joined the Norfolk & Western in October, 1909, as a messenger in the accounting department, later serving as clerk to the comptroller, bookkeeper, clerk in charge of construction accounts, first assistant to general bookkeeper, chief clerk to auditor of disbursements, and chief clerk to comptroller. He served in the firm



J. W. Shields

World War from March, 1917, to April, 1919. Mr. Shields was promoted to general accountant in January, 1937, and in December, 1938, he was named auditor of disbursements, the position he held at the time of his recent advancement to assistant comptroller.

Gerard Hartzog, whose appointment to assistant general counsel of the Great Northern with headquarters at St. Paul, Minn., was announced in the May 19 issue of *Railway Age*, was born at Bamberg, S. C., on April 14, 1904. In 1925 he was graduated with an A.B. degree from Wofford College at Spartanburg, S. C., and received an LL.B. degree from the school of law at the University of South Carolina in 1931. He was engaged in the private practice of law at Columbia, S. C., until November, 1933, when he was appointed spe-



Gerard Hartzog

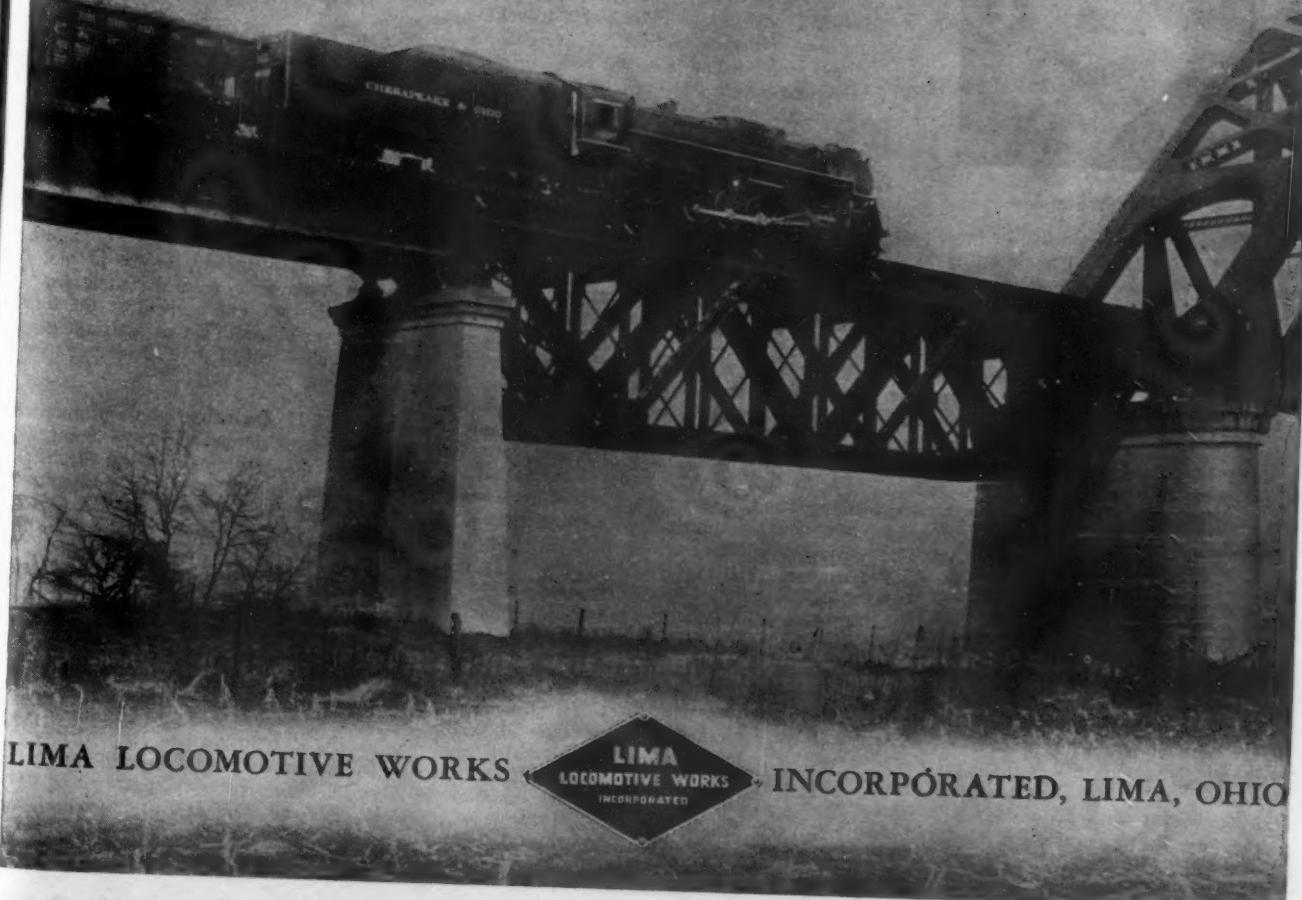
cial attorney, chief counsel's office for the Bureau of Internal Revenue at Washington, D. C. In September, 1939, Mr. Hartzog was named special assistant to the Attorney General of the United States in settlement and trial of tax cases. In December, 1943, he returned to the private practice of law

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okkeeper,
accounts
per, chief
and chief
in the firm

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at Washington, D. C., dealing in federal tax matters before the courts and departments, the activity in which he was engaged at the time of his recent appointment.

F. J. Bresnahan has been appointed auditor of the Washington Terminal Co. at Baltimore, Md., succeeding **John L. Ferguson**, who has retired.

J. H. Miller, general attorney of the Wabash at St. Louis, Mo., has been promoted to general solicitor, with the same headquarters. **R. B. Elster**, assistant general attorney, has been advanced to assistant general solicitor, with headquarters as before at St. Louis.

Walter Walmsley, auditor of freight and miscellaneous accounts of the Canadian National at Montreal, Que., has been appointed auditor of revenues there succeeding **Walter Lorne Brown**, who has retired after 43 years' service. **John Battison McLaren**, assistant auditor, has been named to replace Mr. Walmsley as auditor of freight and miscellaneous accounts at Montreal. Mr. Walmsley, who was born at Southport, England, entered railroading



Walter Walmsley

with the Lancashire & Yorkshire (now part of the London, Midland & Scottish) as a messenger in the freight department at Southport in 1900, later serving at various other stations as relief clerk. He left the service of the railway in March, 1907, and came to Canada, where he joined the staff of the auditor of freight accounts of the Grand Trunk (now part of the Canadian National) as a clerk at Montreal. In June, 1914, he was promoted to assistant chief clerk to the auditor of revenues, and in August, 1918, he was further advanced to chief clerk, being transferred to the general auditor's office in November, 1919. Mr. Walmsley became assistant auditor of revenues in September, 1921, and in 1923 he was advanced to auditor of freight accounts. In June, 1943, he was named auditor of freight and miscellaneous accounts, the post he held at the time of his recent appointment as auditor of revenues.

Mr. Brown was born at London, Ont., and was educated at McGill University. He joined the staff of the Canadian Northern (now Canadian National) as stenographer to the general superintendent at Quebec, Que., in 1902. The following year he became clerk in the office of the third

vice-president at Toronto, Ont., and in 1904 he was promoted to chief clerk in the auditor's office of the Canadian Northern Ontario (now Canadian National). Mr. Brown was appointed chief clerk to the auditor of the Eastern lines of the Canadian Northern in 1916, and in 1918 he became



John Battison McLaren

assistant auditor of agencies of the Canadian Northern. He was promoted to auditor of agencies of the Canadian National at Toronto on January 1, 1919, transferring to Montreal in 1923 and remaining in his post until June, 1943, when he was appointed auditor of revenues, the position he held at the time of his retirement.

Mr. McLaren was born at Oban, Scotland, and entered railroading with the Canadian Pacific as a clerk in the accounting department in 1907. Since that time he has held the positions of chief clerk, travelling auditor, assistant auditor of freight accounts, chief accountant, and assistant auditor, successively. He was serving as assistant auditor at the time of his appointment as auditor of freight and miscellaneous accounts.

Norman J. MacMillan, assistant general solicitor of the Canadian National at Montreal, Que., has been appointed general counsel with jurisdiction over the law department, succeeding **Reginald H. M. Temple, K. C.**, who has been named consulting counsel. A biographical sketch of Mr. Temple's career and his photograph appeared in the *Railway Age* of March 3.

John F. Hagmann, assistant treasurer of the Cincinnati, New Orleans & Texas Pacific (part of the Southern) at Cincinnati, Ohio, has been promoted to treasurer, with the same headquarters, succeeding **Thomas Bird**, who has retired after 53 years of service. **William H. Jordan**, cashier, has been advanced to assistant treasurer, replacing Mr. Hagmann, and **Edgar P. Riffle** has been appointed cashier, relieving Mr. Jordan. Mr. Bird was born at Cincinnati on February 1, 1875, and entered railway service with the C. N. O. & T. P. as a yard clerk at Cincinnati on May 28, 1892. On January 22, 1901, Mr. Bird was assigned to the treasury department and on May 23, 1912, he was promoted to assistant treasurer. On November 20, 1934, he was advanced to the position he held at the time of his retirement.

OPERATING

C. H. Harvey, road foreman of engines of the Canadian Pacific at Calgary, Alta., has been promoted to assistant division superintendent, with headquarters at Medicine Hat, Alta.

C. W. Coil, who has been on leave of absence from the Northern Pacific to serve with the United States Army as lieutenant-colonel, has returned to the N. P., as assistant superintendent of the Rocky Mountain division, with headquarters at Missoula, Mont.

Laurie Ells, whose appointment as assistant general superintendent of the Canadian Pacific's New Brunswick district at St. John, N. B., was announced in the *Railway Age* of June 2, was educated in Kings County Academy and entered the service of the Dominion Atlantic (an affiliate of the Canadian Pacific) on December 19, 1910, as a clerk in the passenger department at Kentville, N. S. After serving in various capacities he became chief clerk of that department on December 1, 1915. Mr. Ells joined the operating department



Laurie Ells

as trainmaster in January, 1919, and was named superintendent at Kentville on May 1, 1924. In August, 1940, he was promoted to general manager with the same headquarters, the position he held at the time of his recent appointment as assistant general superintendent of the Canadian Pacific at St. John.

William H. Oglesby, whose promotion to division superintendent of the Southern at Selma, Ala., was announced in the *Railway Age* of June 2, was born in Bedford County, Va., on September 27, 1912. After graduating from Virginia Military Institute at Lexington, Ky., he entered railroading with the Southern as rodman at Charlotte, N. C., on September 8, 1936. Two years later he was advanced to assistant track supervisor at Strasburg, Va., becoming track supervisor at Camden, S. C., the following November, and on July 1, 1940, he was appointed assistant trainmaster at Somerset, Ky. In September of that year he was promoted to trainmaster at Selma, serving subsequently in that capacity at Oakdale, Tenn., and at Birmingham, Ala., until March, 1944, when he was advanced to assistant superintendent at Sheffield,

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Ala. On February 16, 1945, Mr. Oglesby was transferred to Atlanta, Ga., where he remained until his recent promotion to superintendent at Selma.

William W. Houston, whose promotion to assistant to the general superintendent of the Western division of the



William W. Houston

Chesapeake & Ohio, with headquarters at Columbus, Ohio, was reported in the *Railway Age* of May 19, was born at Monroeville, Ohio, and entered railway service in 1893 as a clerk of the Wheeling & Lake Erie and one year later he went with the Toledo & Ohio Central as a clerk-operator. In 1904 he was appointed chief dispatcher of the Kanawha & Michigan, later serving as trainmaster, and in 1910 he went with the Hocking Valley (now a part of the C. & O.), as trainmaster and four years later he was promoted to superintendent. In May, 1930, after the Hocking Valley was merged with the C. & O., Mr. Houston was appointed superintendent of the Hocking Valley division, with headquarters at Columbus, the position he held at the time of his new appointment.

Arnold Ashley Dunphy, whose appointment as manager of the Dominion Atlantic (an affiliate of the Canadian



Arnold Ashley Dunphy

Pacific) at Kentville, N. S., was announced in the *Railway Age* of June 2, was born at Fredericton, N. B., on January 4, 1890, and entered railroading with the Canadian Northern (now the Canadian National) in 1907. After serving as trainman and con-

ductor he joined the Canadian Pacific as trainman at Regina, Sask., in November, 1912, and thereafter served successively at that location as night yardmaster, yard foreman, and depot master until January, 1917, when he became yardmaster at Weyburn, Sask. The following August he returned to Regina as general yardmaster, and on February 8, 1925, he was appointed trainmaster of the Edmonton division at Red Deer, Alta. Mr. Dunphy was named assistant superintendent at Bassano, Alta., and Drumheller on October 16, 1926, transferring to the Calgary (Alta.) terminals in February, 1928, and to Kenora, Ont., in May, 1929. On May 15, 1933, he was promoted to superintendent of the Portage division at Winnipeg, Man., where he remained until 1943, when he was transferred to Schreiber, Ont., his location at the time of his recent promotion to manager of the Dominion Atlantic.

O. H. Zimmerman, Jr., trainmaster of the Illinois Central at Champaign, Ill., has been transferred to Palestine, Ill., succeeding **J. S. Buswell**, who has been transferred to Kankakee, Ill. **A. Gorman**, who has been on leave of absence due to illness, has returned to his former position of trainmaster at Champaign, replacing Mr. Zimmerman.

L. R. Knox, who since 1941 has directed arrangements for all military train movements on the Reading and the Central of New Jersey, has been appointed superintendent dining cars of those roads at Philadelphia, Pa., succeeding **William M. Shaw**, who has retired after nearly 45 years of railroad service, including 17 as superintendent dining cars.

C. L. Franklin, formerly general superintendent of the Chicago, Rock Island & Pacific, with headquarters at El Reno, Okla., has been appointed general manager of the Second district, a new position, with headquarters at Kansas City, Mo. **G. W. Raney**, formerly general manager, remains as general manager of the First district, with headquarters in Chicago, Ill. **O. W. Limestall**, formerly general superintendent at Des Moines, Iowa, has been appointed assistant general manager of the First district with the same headquarters. **C. L. Bakke**, formerly general superintendent at Kansas City, Mo., has been appointed assistant general manager of the Second district, with headquarters at El Reno, Okla. The three positions of general superintendent have been abolished. **C. C. Cunningham** has been appointed superintendent of the Southern division, with headquarters at Ft. Worth, Texas, succeeding **C. C. Fertig** who has been assigned to other duties. **R. E. Johnson** has been appointed superintendent of the Panhandle division, with headquarters at Liberal, Kan., succeeding Mr. Cunningham, and **R. B. Smith** has been appointed superintendent of the Burlington-Rock Island, with headquarters at Houston, Texas, succeeding Mr. Johnson.

TRAFFIC

B. G. Brink, assistant general freight agent of the Bessemer & Lake Erie at Pittsburgh, Pa., has been promoted to general freight agent with the same headquarters, succeeding **R. S. Wolford**, whose

death is reported elsewhere in these columns. **H. R. Richards** has been appointed assistant general freight agent replacing Mr. Brink.

Robert F. Johnston, whose promotion to general passenger agent of the Chicago, Milwaukee, St. Paul & Pacific, with head-



Robert F. Johnston

quarters at Chicago, was reported in the *Railway Age* of June 2, was born at Chicago on April 18, 1889, and entered railway service on September 14, 1920, as a voucher clerk of the Milwaukee. Two years later he was promoted to chief clerk of the general passenger agent at Chicago, and on January 1, 1938, he was advanced to chief clerk of the passenger traffic manager, with the same headquarters, holding that position until his new appointment, effective June 1.

Vincent G. Berdolt has been appointed foreign freight agent of the Wabash, with headquarters at New York, N. Y.

Charles E. Astler, traveling freight agent of the Union Pacific, has been promoted to general agent, with headquarters as before at Cheyenne, Wyo.

W. Kay Conard has been appointed general forestry agent of the Southern at Dorchester, S. C., succeeding Roland Turner, whose retirement on June 1 was announced in the *Railway Age* of March 31.

W. S. Hyman, division passenger agent of the Southern at Birmingham, Ala., has been named assistant general passenger agent at Washington, D. C., succeeding **Francis K. Brown**, whose death on May 24 was reported in the *Railway Age* of June 2.

W. D. O'Brien, general freight agent of the Great Northern at St. Paul, Minn., has been promoted to assistant freight traffic manager, with the same headquarters. **O. M. Anderson**, commerce agent, has been advanced to assistant general freight agent, with headquarters as before at St. Paul, succeeding **V. P. Brown**, who has been promoted to general freight agent at St. Paul, replacing Mr. O'Brien.

Joseph Caldwell, whose retirement as general passenger agent of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, was reported in the *Railway Age* of June 2, was born at Vermillion, Ohio, on January 3, 1875, and en-

Safety

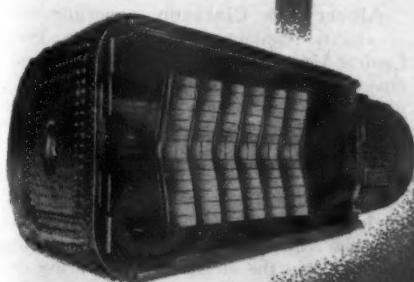
CAN NEVER BE FULLY AUTOMATIC!

The engineman must always be on

the alert to make certain that water glasses and gauge cocks show adequate water in the boiler. This is a routine operating responsibility of the locomotive crew.

But if, under any conditions, the water becomes low, the locomotive equipped with Security Circulators has an added protection.

Security Circulators insure a positive flow of water over the center of the crown sheet at all times, besides strengthening the firebox structure.



AMERICAN ARCH COMPANY, INC.

NEW YORK - CHICAGO

SECURITY CIRCULATOR DIVISION

tered railway service in June, 1893, as a telegrapher of the Milwaukee. In 1899 he was promoted to chief clerk of the passenger department at St. Paul, Minn., later serving as passenger agent and traveling passenger agent, with the same headquarters. Mr. Caldwell was subsequently appointed chief clerk of the passenger department at Chicago where he was promoted successively to assistant general passenger agent, first assistant general passenger agent, and general passenger agent, the position he held at the time of his retirement.

Hollis C. Pearce, special operating department representative of the Chicago Great Western, with headquarters at Chicago, has retired after 58 years of service. He entered railway service on October 15, 1887, as a construction department time-keeper of the Minneapolis, St. Paul & Sault Ste. Marie, later being promoted to storekeeper and to purchasing agent. In April, 1903, Mr. Pearce went with the Chicago, Rock Island & Pacific as assistant purchasing agent, with headquarters at Chicago, and in 1906 he resigned to become general storekeeper of the Southern Pacific, with headquarters at Oakland, Cal. In July, 1913, he became general purchasing agent of the Seaboard Airline at Norfolk, Va., and during World War I he served with the procurement section of the United States Railroad Administration. On April 15, 1921, Mr. Pearce was appointed director of purchases and stores of the Chesapeake & Ohio, with headquarters at Richmond, Va., remaining in that capacity until January, 1932, when he went with the Chicago Great Western as a special representative, the position he held at the time of his retirement.

MECHANICAL

F. T. Walden has returned to his position as master mechanic of the Southern at Birmingham, Ala., after a leave of absence, and **K. A. Lentz**, who replaced Mr. Walden at Birmingham, has returned to his former position of master mechanic at Somerset, Ky. **S. H. DuBose**, who succeeded Mr. Lentz at Somerset, has returned to his post as master mechanic at Ludlow, Ky., and **P. C. Branch**, who succeeded Mr. DuBose at Ludlow, has also returned to his former position as general foreman at Birmingham.

F. S. Robbins, general superintendent motive power of the Atlantic Coast Line at Wilmington, N. C., has resigned his position to take a retirement furlough until the end of this year, when, at the age of 65, he will retire under the provisions of the Railroad Retirement Act.

Frederic Ward Butt, assistant engineer, office of the equipment electrical engineer, of the New York Central System at New York, has retired after 40 years of service. Mr. Butt, who is 68 years old, entered railroading with the New York Central in 1905 as assistant engineer, equipment engineering department, and aided in the electrification of the railroad as well as designing many of the locomotives now in use. His work was partly responsible for the development of electric trains to replace steam trains on the Grand Central

Terminal rails from the Terminal to White Plains, N. Y., and Harmon; and he also worked on the design, construction, inspecting, and testing of the electric multiple

traction he held at the time of his new promotion.

SPECIAL

Walter G. Carl, superintendent wage bureau of the Baltimore & Ohio at Baltimore, Md., has been named manager of labor relations with the same headquarters, and **Richard L. Harvey** has been appointed to succeed Mr. Carl as superintendent wage bureau, in charge of the application of all agreements between the company and labor organizations. **David H. Hicks**, personnel supervisor, motive power department, at Baltimore, has been named assistant superintendent wage bureau, and **Clarence H. Holtzworth**, assistant to chief engineer at Baltimore, has been appointed superintendent employment to inaugurate a standard plan of employment for the entire railroad. **C. E. Mager**, **D. T. Cutright**, and **J. E. Howell** have been appointed personnel supervisors of the Eastern region, Central region, and Western region respectively with headquarters at Baltimore, Pittsburgh, Pa., and Cincinnati, Ohio, all newly created positions.

OBITUARY

C. F. Edwards, division engineer, Hocking division of the Chesapeake & Ohio, died at Columbus, Ohio, on June 1.

John P. Dowling, general manager of the Railway Express Agency, with headquarters at Los Angeles, Cal., died in that city on May 31.

Dr. John Mills Gibbons, who served as general attorney of the New York, New Haven & Hartford from November 1, 1921, to July 15, 1938, when he retired, died at New York on May 29. He was 67 years old.

R. S. Wolford, general freight agent of the Bessemer & Lake Erie at Pittsburgh, Pa., died recently. Mr. Wolford was born at Conneaut Lake, Pa., and entered railroading September 7, 1897, in the transportation department of the Pittsburgh, Bessemer & Lake Erie (now the Bessemer & Lake Erie). On July 14, 1903, he was transferred to the general freight office, where he served in various clerical positions, including tariff inspector, until February 1, 1928, when he was named chief of the tariff bureau. He was appointed general freight agent in August, 1933, and remained in that position until his recent death.

Albert Jay Clarkson, superintendent of electric equipment of the New York Central Lines Buffalo and East, with headquarters at Harmon-on-Hudson, N. Y., died on June 4 at his home at Yonkers, N. Y. Mr. Clarkson, who was born at Bloomington, Ill., on August 4, 1893, received his B. S. degree from the University of Illinois in 1916, and a degree in electrical engineering in 1932. He entered railroading with the New York Central in 1916, serving until 1923 in the electrical engineering department as draftsman, inspector and assistant engineer successively. In 1923 he was appointed general inspector in the electric equipment department, and in 1928 he was named superintendent of electric equipment, the position he held at the time of his death.



Frederic Ward Butt

unit suburban cars, the first steel passenger cars on the line which were the models for the present commuter trains. Among Mr. Butt's other designs were electric and Diesel-electric locomotives, electric lighting equipment on the trains and electric lighting and train-stop equipment for locomotives.

PURCHASES AND STORES

Harry J. Hadden, whose promotion to purchasing agent of the Chicago & Illinois Midland, with headquarters at Springfield, Ill., was reported in the *Railway Age* of May 19, was born at Jacksonville, Ill., on December 27, 1898. He entered railway service in September, 1905, as a clerk-stenographer of the Chicago, Burlington & Quincy at Beardstown, Ill., subsequently holding various minor positions on this and other roads until March 1, 1928, when he was appointed to assistant to the general manager of the Jacksonville & Havana and



Harry J. Hadden

of the Chicago, Springfield & St. Louis, with headquarters at Springfield. In July, 1929, Mr. Hadden was promoted to general manager of both roads, with the same headquarters, and one year later he was appointed general manager for the receiver of these roads. On December 1, 1941, he was appointed chief of the purchase bureau of the C. & I. M., at Springfield, the posi-

Bigger Boilers

or

Better Boilers

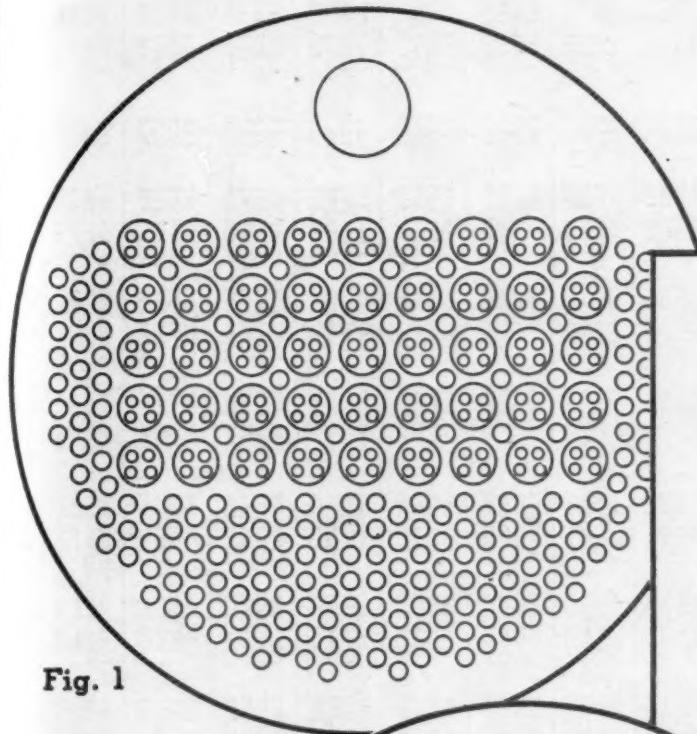


Fig. 1

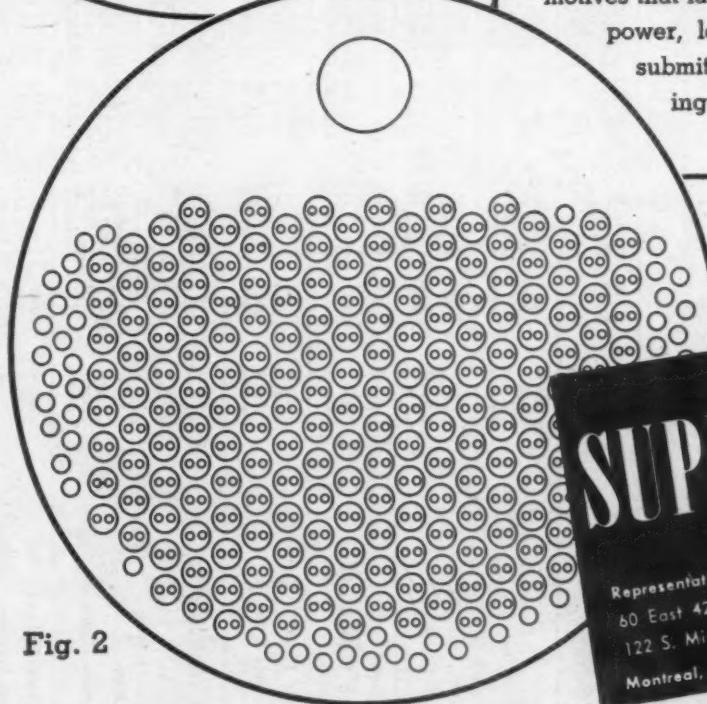


Fig. 2

Boilers are measured by their capacity. Increased capacity can be obtained by either increasing the size of the boiler or by better arrangement of evaporating surfaces and more superheating surface.

A comparison of flue arrangement may be noted in Fig. 1 and 2 for same boiler diameters. The boiler represented by Fig. 2 will develop 300 hp. more than the boiler represented by Fig. 1.

For new power or for existing locomotives that lack sufficient boiler horsepower, let us make a study and submit our proposal for increasing the boiler horsepower.



Superheaters • Superheater Pyrometers • Exhaust Steam Injectors • Steam Dryers • Feedwater Heaters • American Throttles

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1945

Name of road	Av. mileage operated during period	Operating revenues			Operating expenses			Transpor-tation	Operating ratio	Net from railway	Railway tax accruals	Net railway operating income	
		Freight	Passenger (inc. misc.)	Way and structures	Maintenance of equipment	Total	Total						
Akron, Canton & Youngstown	April 171	\$386,243	\$111	\$70,404	\$33,725	\$113,727	\$254,283	62.8	\$150,703	\$61,256	\$61,808	\$278,658	
Alton	April 171	1,645,621	570	1,708,402	258,600	148,929	76,249	1,061,675	646,727	288,358	275,059	530,000	
Atlanta & West Point	April 93	2,399,985	664,828	3,439,424	459,336	486,731	74,277	1,038,718	2,185,720	1,243,704	487,050	1,77,881	
Atchison, Topeka & Santa Fe System	April 93	8,752,440	12,24,692	1,399,409	1,872,842	290,275	4,248,313	8,338,406	65,5	4,386,286	1,719,364	1,865,872	1,34,436
Western of Alabama	April 13,115	31,890,726	8,300,312	43,343,170	6,605,897	7,289,097	28,951,694	2,355,653	48,374,766	106,641,655	60,1	15,815,727	11,119,882
Atlanta, Birmingham & Coast	April 639	1,167,918	33,487,596	177,345,171	23,934,337	2,917,337	50,151,594	1,061,675	50,151,594	1,176,321	18,64,860	16,167,463	183,247
Atlanta Coast Line	April 4,935	9,158,732	1,083,408	1,764,214	68,821	68,340	10,496	1,74,465	1,216,152	68,9	548,062	371,401	157,790
Charleston & Western Carolina	April 4,935	36,566,829	129,236	438,478	207,472	250,416	113,444	112,998	293,756	74,54	197,188	130,521	16,184
Baltimore & Ohio	April 6,130	27,146,877	3,704,973	32,392,478	1,971,595	2,307,882	201,797	4,039,289	8,936,332	66,8	4,443,670	3,150,000	742,563
Staten Island Rapid Transit	April 6,132	102,688,118	16,090,112	125,442,921	15,651,546	26,232,800	811,107	16,123,860	34,718,897	73,9	19,539,977	13,600,000	3,828,792
Bessemer & Lake Erie	April 29	329,723	1,339,392	440,865	46,473	187,250	18,600	1,533	160,289	76,0	35,883	35,000	10,387
Bangor & Aroostook	April 343	1,367,418	60,301	1,463,923	220,220	249,519	41,442	10,198	13,034	70,9	425,600	210,000	19,520
Boston & Maine	April 602	1,022,909	64,726	1,122,583	164,504	124,840	6,414	250,436	585,116	52,1	537,467	383,120	149,884
Burlington Rock Island	April 602	4,366,977	267,597	4,767,552	528,947	541,780	25,975	1,170,335	2,60,426	54,7	2,161,325	1,512,429	598,281
Cambria & Indiana	April 1,789	5,458,515	1,399,811	7,472,623	1,097,058	1,333,638	77,239	2,575,127	5,30,979	71,3	2,141,644	874,499	906,368
Canadian Pacific Lines in Maine	April 228	20,423,377	5,909,737	28,771,907	4,656,579	5,329,090	372,633	10,89,278	22,240,313	77,3	6,535,594	2,677,253	2,444,409
Canadian Pacific Lines in Vermont	April 90	117,946	13,666	143,321	29,111	27,693	5,189	85,097	16,35,588	58,7	115,253	7,865	2,737,421
Central of Georgia	April 1,815	23,34,817	69,572	68,273	1,793	1,702,198	15,500	755,432	13,35,833	76,3	403,455	55,282	691,162
Central Vermont	April 1,815	9,446,827	2,710,167	13,505,325	1,830,030	2,936,738	53,243	119,351	4,891,118	110,5	—	463,366	422,800
Chesapeake & Ohio	April 654	4,608,532	580,038	5,489,106	496,113	869,544	55,857	1,993,400	3,582,939	65,6	1,876,167	769,544	832,833
Chicago & Illinois Midland	April 654	16,663,782	2,305,036	20,23,009	1,965,534	3,590,098	234,392	15,74,355	14,696,503	67,8	5,335,562	14,02,006	1,305,365
Chicago & North Western	April 912	7,226,977	2,093,876	10,265,599	1,250,678	1,795,528	285,367	3,734,488	7,496,500	73,0	2,69,728	95,076	—
Chicago, Burlington & Quincy	April 1,31	565,816	186	595,860	98,418	76,756	22,697	137,478	362,493	60,8	233,367	155,502	81,574
Chicago Great Western	April 8,072	9,881,484	2,804,444	14,25,172	1,92,371	2,834,027	220,293	4,779,993	10,208,553	71,7	4,026,619	472,443	295,571
Chicago, Indianapolis & Louisville	April 541	867,951	100,590	52,822	124,018	188,247	1,39,683	2,903,355	71,7	277,123	68,934	158,334	252,027
Central of New Jersey	April 4,935	3,831,354	446,540	4,418,814	759,283	1,37,484	1,406,561	2,900,304	65,6	1,518,510	427,640	862,242	1,023,638
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central of New Jersey	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644
Central Vermont	April 4,935	6,446,827	2,251,479	2,710,167	13,505,325	1,830,030	2,936,738	512,358	1,397,571	1,308,186	3,108,186	960,814	1,792,644

Chicago, Indianapolis & Louisville	April	541	867,951	52,832	980,508	124,018	188,247	33,878	319,683	703,365	711.7	2,816,071	1,235,168	960,587	1,113,838
	4 mos.	541	3,831,354	300,590	4,118,814	440,540	750,833	137,484	1,466,561	2,900,304	65.6	1,518,510	622,640	158,534	252,093
															1,023,048

REVENUES AND EXPENSES OF RAILWAYS

Month of April and Four Months of Calendar Year 1945—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues			Maintenance of equipment			Operating expenses			Operating ratio	Net from railway operation	Railway tax accruals	Net railway operating income					
		Freight		Passenger (inc. misc.)	Way and structures		Traffic	Trans-		Transport				Operating ratio					
		Freight	Passenger	(inc. misc.)	Structures	Equipment	Traffic	Total	Port	Transport	Railway	1945	1944						
Chicago, Milwaukee, St. Paul & Pacific	April	10,722	\$13,786,181	\$2,360,062	\$18,543,970	\$3,855,058	\$6,210,064	\$14,295,658	77.1	\$4,248,312	\$1,862,000	\$2,314,048	\$2,220,834						
Chicago, Rock Island & Pacific	April	7,749	57,241,716	9,398,809	74,188,392	11,631,489	12,652,255	1,227,357	52,450,339	53,721,256	20,417,156	10,188,000	9,838,753	10,397,521					
Chicago, St. Paul, Minneapolis & Omaha	April	7,749	47,263,061	12,224,462	32,224,462	8,095,098	2,288,207	3,348,223	4,726,582	10,307,367	64.0	5,807,194	3,511,116	1,785,591	1,747,479				
Clinchfield	April	302	6,617	3,366,471	2,112,144	3,111,555	299,727	39,576	8,620,607	1,621,222	74.0	570,852	209,278	328,883	207,914				
Colorado & Southern	April	4 mos.	1,092,165	8,824,153	1,208,374	1,294,530	665,051	798,489	70,802	3,710,592	6,695,887	75.9	2,128,266	782,531	1,157,465	1,055,904			
Colorado & Wyoming	April	4 mos.	1,092,165	1,117,148	1,94,012	1,774,276	366,634	22,382	244,737	539,358	53.9	1,521,841	132,000	413,557	469,236				
Columbus & Greenville	April	4 mos.	748	3,598,811	1,077,920	1,312,930	162,940	211,044	17,644	409,312	6,455,930	1,751,294	65,573	868,216	1,044,058				
Delaware & Hudson	April	4 mos.	804	3,595,812	1,339,733	1,308,017	665,051	304,232	219,934	3,331,293	69,171	1,323,675	166,722	217,009	147,697				
Delaware, Lackawanna & Western	April	4 mos.	973	1,022,427	1,371,826	5,027,659	1,245,038	108,454	1,317,318	3,703,984	73.7	582,748	639,978	913,188	931,188				
Denver & Rio Grande Western	April	4 mos.	42	80,486	132,470	44,059	82,308	3,113	50,826	88,743	66.9	43,727	22,613	20,906	26,064			
Denver & Salt Lake	April	4 mos.	168	329,633	7419	540,293	11,715	21,659	3,819	44,250	155,553	97.6	2,864	8,585	—5,441	5,544			
Detroit & Mackinac	April	4 mos.	846	4,011,526	158,687	4,282,546	494,423	1,024,211	52,270	1,491,467	3,179,703	74.3	1,102,843	436,768	525,317	612,317			
Detroit & Toledo Shore Line	April	4 mos.	973	5,204,539	721,022	5,239,224	1,927,782	4,284,556	196,822	6,054,439	12,755,227	78.9	3,535,802	1,536,033	1,683,891	3,256,553			
Detroit, Toledo & Ironton	April	4 mos.	546	1,738,386	2,734,142	6,688,989	575,724	1,138,382	117,767	2,748,478	4,945,083	73.9	1,743,906	69,200	832,385	691,867			
Duluth, Missabe & Iron Range	April	4 mos.	2,386	5,338,446	708,782	6,306,404	615,247	1,173,725	96,724	1,718,424	3,800,062	60.3	2,566,342	1,703,127	760,290	1,425,735			
Duluth, Winnipeg & Pacific	April	4 mos.	230	65,441	9,757	83,265	18,845	13,863	806	31,673	69,034	82.9	14,231	4,427	6,479	5,133			
Elgin, Joliet & Eastern	April	4 mos.	50	361,939	41,106	32,648	68,344	65,833	3,429	12,468	280,241	87.8	1,20,635	17,670	8,73	7,709			
Erie	April	4 mos.	464	671,232	1,344	596,974	91,849	114,158	15,187	187,481	433,207	62.2	263,676	104,602	162,690	164,386			
Florida East Coast	April	4 mos.	546	3,612,970	4,154	5,644,945	380,188	565,835	5,235	888,153	1,179,508	53.7	1,644,917	1,275,036	283,581	848,714			
Grand Trunk Western	April	4 mos.	175	182,000	2,800	189,000	48,027	30,453	2,405	73,222	158,140	83.7	30,860	15,339	—14,740	87,331			
Great Northern	April	4 mos.	8,372	13,828,971	3,149,517	16,493,607	3,149,517	9,109,460	9,648	19,984	78,6	192,013	195,216	—5,77	—5,77				
Green Bay & Western	April	4 mos.	233	2,565,516	277,737	3,013,478	267,041	785,044	1,697	1,005,570	2,137,401	71.0	87,077	48,924	39,712	110,939			
Georgia & Florida	April	4 mos.	392	1,016,427	243	12,665,985	991,815	3,091,205	69,551	4,193,933	8,066,830	68.3	3,999,155	1,775,058	1,784,226	954,407			
Georgia Railroad	April	4 mos.	328	10,969,529	791,910	12,545,414	1,304,028	2,108,291	247,042	4,747,793	9,053,890	72.2	3,491,524	1,186,713	1,378,770	1,377,786			
Great Northern	April	4 mos.	408	2,548,000	241,000	2,957,000	543,355	521,236	1,247,639	2,128,285	4,95,097	77.5	2,775,647	213,131	324,712	391,812			
Canadian National Lines in New England	April	4 mos.	1,026	10,387,000	1,219,000	12,360,000	1,977,381	2,106,972	149,362	4,912,936	9,384,289	81.9	500,894	131,131	85,723	1,842,106			
Gulf & Ship Island	April	4 mos.	172	185,000	6,800	222,400	1,34,658	1,264,866	2,290	2,121,176	9,089	408,777	835,105	119.2	—134,405	84,736	—366,303	—360,227	

Table continued on second left-hand page

IT'S A GREAT NEW DAY FOR RAILROADING

YOUNG
enough to be new
ABLE
to do the job
and
WILLING
to work

GENERAL MOTORS
LOCOMOTIVES

IT'S A GREAT NEW DAY FOR RAILROADING

Eight

General Motors Diesel

passenger locomotives

on the L & N

were assigned a total of

1,519,973 miles

for 1944.

They actually operated

a total of 1,494,924 miles

or 98.4% of their assignment.

That's an average of

126,664 miles per month;

averaging 15,833 miles

per locomotive.

ON TO FINAL VICTORY ★ BUY MORE WAR BONDS

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS CORPORATION . LA GRANGE, ILL.

REVENUES AND EXPENSES OF RAILWAYS

Mouth of April and Four Months of Calendar Year 1945—Continued

Name of road	Operating expenses						Net railway operating income							
	Av. mileage operated during period	Freight	Passenger (inc. misc.)	Total way and equipment	Maintenance of structures	Traffic	Transportation	Total	Operating ratio	Railway tax accruals	1945	1944		
Gulf, Mobile & Ohio	April	\$3,230,687	\$181,496	\$3,151,328	\$471,586	\$516,065	\$83,046	\$2,068,243	58.8	\$1,448,085	\$883,239	\$427,258		
	4 mos.	1,944	11,676,063	12,733,569	1,921,221	2,722,905	341,963	3,390,247	45.5	4,337,653	2,637,828	1,451,113		
Illinois Central	April	4,822	14,264,049	2,444,140	18,118,362	3,265,479	219,170	5,282,721	11,885,514	65.6	6,332,848	3,794,102	2,065,045	
	4 mos.	4,823	57,412,732	10,315,106	72,288,640	9,335,998	13,106,613	872,356	47,064,291	65.1	25,234,349	15,934,355	8,690,333	
Yazoo & Mississippi Valley	April	1,524	2,958,223	295,163	3,440,884	528,827	38,028	900,940	1,895,867	55.1	1,545,017	854,499	557,575	
	4 mos.	1,524	10,137,507	1,219,032	12,159,023	2,082,368	1,276,656	151,231	3,476,368	60.7	4,778,683	2,699,607	1,738,157	
Illinois Central System	April	6,346	17,222,272	2,939,303	21,559,246	3,000,003	3,596,259	257,198	6,183,111	13,781,381	7,777,865	4,653,760	2,627,532	
	4 mos.	6,347	67,550,239	11,656,475	84,457,672	11,438,366	14,383,269	1,023,587	24,579,804	54,444,640	64.5	30,013,032	18,654,630	10,448,181
Illinois Terminal	April	476	768,551	171,754	1,015,387	99,999	120,581	20,482	1,300,772	56.03	446,419	1,266,934	113,489	
	4 mos.	476	3,070,610	678,839	4,043,494	396,339	476,338	80,801	1,211,990	56.29	1,767,448	1,189,678	490,976	
Kansas City Southern	April	890	11,197,558	1,195,533	13,021,905	356,359	441,900	65,619	887,350	62.5	1,32,306	575,000	381,319	
	4 mos.	890	32,888	1,402,835	1,270,163	355,511	1,00,043	38,899	317,113	685,537	1,37,366	327,633	313,455	
Kansas, Oklahoma & Gulf	April	328	356,705	1,243	350,604	59,551	26,403	9,733	79,303	51.7	174,189	76,515	175,237	
	4 mos.	328	1,402,835	7,522	1,422,923	181,200	126,555	7,747	148,394	74.2	188,269	182,621	98,416	
Lake Superior & Ishpeming	April	156	270,163	126	355,511	31,538	29,010	628	66,989	42.3	156,205	95,471	—150,933	
Lehigh & Hudson River	April	96	293,064	19	1,201,500	135,595	173,113	22,193	540,493	379,334	191,399	65.1	102,548	
	4 mos.	96	1,198,523	481,205	55,186	186,643	260,744	3,500,560	7,709,086	59.2	463,552	2,276,039	1,956,302	
Lehigh & New England	April	190	477,228	1,792,729	1,806,940	186,121	516,218	32,309	606,562	1,25,387	176,965	289,433	45,348	
Louisiana & Arkansas	April	190	1,792,729	1,792,729	1,806,940	521	486,332	114,497	141,086	2,778	3,111,442	1,965,790	685,759	
Lehigh Valley	April	1,260	6,802,077	585,887	7,819,081	1,049,291	1,257,201	2,858,250	5,524,491	70.7	2,294,590	512,762	1,196,087	
	4 mos.	1,260	24,171,672	2,994,873	28,348,818	4,175,205	3,070,284	491,654	12,29,381	81.8	5,174,345	493,300	23,892	
Maine Central	April	834	1,577,889	140,283	1,791,225	372,622	196,264	35,195	407,313	59.2	729,937	450,721	200,794	
	4 mos.	834	6,302,021	580,923	7,113,227	1,295,785	795,460	139,507	4,001,255	56.3	3,111,442	1,965,790	685,759	
Louisville & Nashville	April	4756	12,681,841	3,110,466	16,876,424	2,959,767	220,857	5,332,387	10,978,335	65.1	5,898,762	4,204,925	815,339	
	4 mos.	4756	33,018,623	3,088,405	90,250,990	7,658,234	11,964,924	849,722	21,754,207	63.1	25,909,037	19,099,037	8,326,102	
Maine Central	April	988	1,576,875	259,436	1,956,493	287,691	322,734	9,807	577,551	64.0	1,25,823	455,181	181,875	
	4 mos.	988	5,894,255	976,344	7,303,234	1,203,676	1,293,234	1,294,205	52,249	5,380,895	677,170	955,184	678,866	
Midland Valley	April	334	133,770	158	136,448	29,108	12,927	5,252	50,114	95,315	72.8	37,133	8,755	
	4 mos.	334	532,567	262	543,327	90,198	54,040	10,357	129,408	55,230	190,997	66,892	20,280	
Minneapolis & St Louis	April	1,408	1,131,933	37,676	1,215,985	20,713	19,250,3	65,602	378,397	75.4	298,857	159,918	124,103	
	4 mos.	1,408	4,711,080	133,124	50,34,532	885,469	783,861	260,607	1,583,398	74.4	3,746,750	1,287,782	722,308	
Minneapolis, St. Paul & Sault Ste. Marie	April	3,224	1,489,865	124,639	1,767,768	358,017	32,331	3,695,353	1,781,510	54,792	223,472	152,622	113,571	
	4 mos.	3,224	5,591,815	563,508	6,740,134	1,326,110	1,520,053	1,56,357	3,101,810	94.3	387,390	549,113	97,160	
Duluth, South Shore & Atlantic	April	550	368,884	17,098	1,412,177	66,657	57,002	11,999	1,33,587	67.4	134,170	52,249	139,977	
	4 mos.	550	1,204,048	81,871	1,371,194	238,067	240,627	44,477	555,537	60.8	263,533	60,223	192,027	
Spokane International	April	152	197,697	3,087	209,738	35,159	15,703	3,427	46,792	51.9	100,968	65,156	24,537	
	4 mos.	152	698,347	18,912	759,120	16,107	16,097	13,072	17,181	87.9	314,707	174,726	96,429	
Missouri-Illinois	April	158	150,326	454	170,392	30,260	30,260	36,893	39,154	55.3	161,274	115,641	35,384	
	4 mos.	158	641,520	11,734	670,265	10,302	10,302	16,811	161,279	64.3	239,385	87,551	105,155	
Missouri & Arkansas	April	365	145,951	1,510	155,113	66,799	18,299	7,314	85,222	120.4	—31,683	—5,049	—55,467	
	4 mos.	365	8446	855,528	252,696	45,355	45,488	4,239	351,541	87.9	144,413	103,365	35,384	
Missouri-Kansas-Texas Lines	April	3,253	5,804,488	878,162	7,253,165	1,652,669	867,214	147,391	2,103,940	50,042,512	69.5	2,210,653	1,193,531	326,224
	4 mos.	3,253	21,197,823	3,799,413	29,304,129	6,780,427	3,464,897	593,081	8,386,603	65.2	1,697,265	9,607,164	245,531	
Missouri Pacific	April	7,082	1,129,299	2,551,953	18,594,006	2,448,067	2,727,733	298,622	5,272,553	61,99,721	60.2	7,394,285	4,028,555	244,554
	4 mos.	7,082	58,402,797	11,510,846	75,143,903	8,169,048	10,830,899	1,208,049	21,133,092	43,336,182	57.7	31,877,721	17,856,550	11,123,826
Gulf Coast Lines	April	1,734	3,972,414	288,821	4,241,157	629,730	66,492	54,629	3,230,747	48.2	368,437	171,705	77,039	
	4 mos.	1,734	12,276,030	1,200,283	17,083,988	2,480,235	1,448,500	21,831	3,891,504	87.9	693,211	2,455,671	284,229	
International Great Northern	April	1,110	1,749,100	444,406	2,411,317	467,481	346,264	36,921	8,252,699	73.6	6,677,055	273,266	245,835	
	4 mos.	1,110	7,025,996	1,728,117	9,733,036	1,837,112	1,375,205	148,470	3,229,655	69,78,008	71.7	2,755,028	911,854	1,195,047
Monongahela	April	170	484,894	1,975	489,440	46,252	14,374	2,721	144,611	54.3	223,829	91,891	36,163	
	4 mos.	170	1,973,926	8,893	1,994,718	266,161	17,021	2,662	578,696	52.2	1,042,113	369,352	240,333	

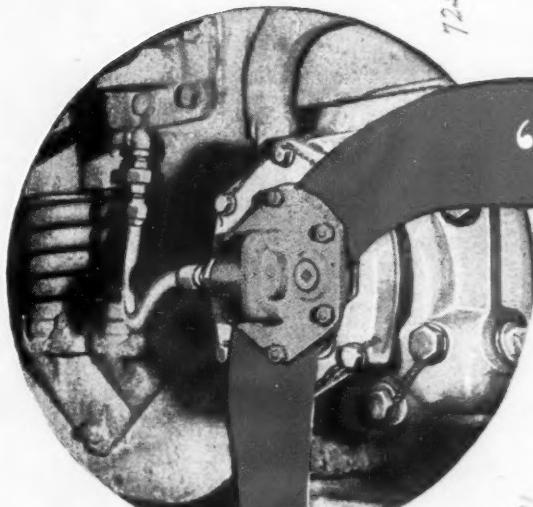
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Railway Age—June 9, 1945

Mononghela April 170 484,894
4 mos. 170 1,973,926 1,975 1,975 480,740 70,658 46,252 721 144,774 265,611 54,3 223,829 91,891 36,163
8,893 8,893 1,995,718 266,161 179,021 2,662 578,696 1,042,123 52,2 953,545 369,997 246,333 501,536

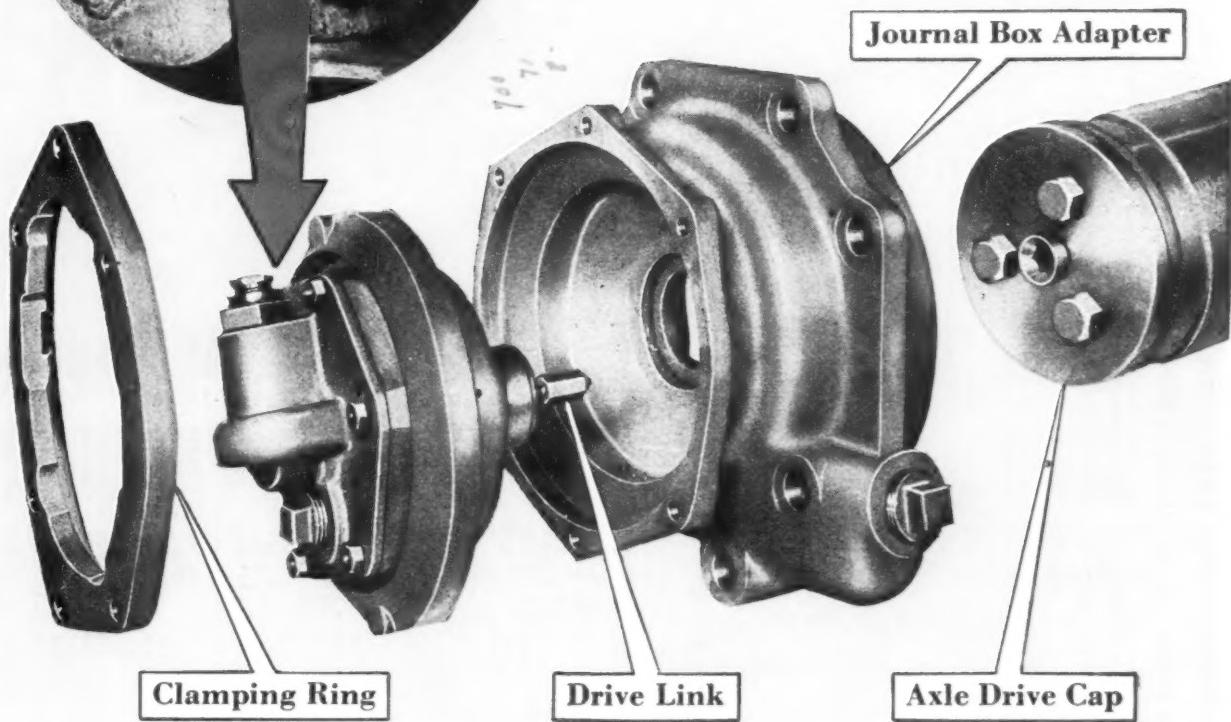
69
725
$$\begin{array}{r} 50\frac{1}{2} \\ 43.50 \\ \hline 6.925 \\ 3.95 \end{array}$$

137,543
240,333
501,536



"AP" Decelostat

*Mounts Directly on
the Journal Box*



THE "AP" Decelostat softens the brake whenever wheel retardation indicates that rail-wheel adhesion has been exceeded. It is applicable to any axle with anti-friction bearings. Mounted in a journal box adapter it is driven through a flexible drive link operated from a drive cap attached to the end of the axle.

The Decelostat is replaceable as a unit merely by removal of its clamping ring and it interchanges from axle to axle. Driven directly from the end of the axle the "AP" Mechanical Decelostat is always on the alert to detect wheel slippage during periods of retardation and operates instantly to soften the brake.

Westinghouse Air Brake Company

Wilmerding, Pa.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1945—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues*			Operating expenses			Trans- portation ratio	Net from railway operation	Railway tax accruals	Net railway operating income	
		Freight	Pasenger (inc. misc.)	Total	Way and Equipment structures	Traffic	Total					
Montour	April	\$214,375	\$215,198	\$430,573	\$57,773	\$1,030	\$65,555	\$149,979	69.7	\$65,239	\$53,856	
Nashville, Chattanooga & St. Louis	April	832,353	645,012	1,477,365	623,401	64,266	296,009	233,037	74.3	181,043	175,287	
Pittsburgh & Lake Erie	April	2,734,551	3,441,333	6,175,884	479,472	8,103	1,065,648	2,314,971	67.3	1,126,362	1,124,725	
New York Central	April	10,831,769	1,939,475	13,769,509	1,906,268	2,654,182	340,882	4,327,254	9,604,764	69.8	4,164,745	2,034,299
New York, Chicago & St. Louis	April	10,749	39,340,784	12,678,419	57,473,436	3,885,496	11,031,435	761,493	21,881,168	76.2	13,670,807	6,075,972
Pittsburgh, New Haven & Hartford	April	10,749	189,492,679	51,173,580	222,416,014	3,688,205	4,368,875	2,970,077	88,148,275	79.6	45,448,346	16,952,888
New York, Ontario & Western	April	229	2,700,995	94,371	289,3101	3,353,818	988,762	4,764	911,776	2,355,081	508,020	607,694
New York Connecting	April	4 mos.	4 mos.	4 mos.	4 mos.	4 mos.	4 mos.	4 mos.	4 mos.	4 mos.	4 mos.	4 mos.
Norfolk Southern	April	1,687	7,482,384	232,253	7,897,239	899,014	1,344,786	170,483	2,459,639	64.5	2,800,627	1,989,054
Norfolk, Tidewater & Western	April	1,687	31,229,800	981,312	32,658,994	3,856,454	3,856,454	656,664	10,253,994	79.6	4,522,377	3,676,288
Norfolk, Tidewater & Western	April	1,688	8,256,335	6,355,201	15,782,161	1,827,808	2,481,194	144,407	5,271,848	63.6	3,699,801	3,645,943
Norfolk, Tidewater & Western	April	1,688	30,826,382	23,654,895	59,147,277	6,859,434	9,437,423	597,952	21,644,631	70.2	1,150,000	2,117,148
Norfolk, Tidewater & Western	April	1,688	2,314,929	17,890	2,590,851	388,621	586,966	90,049	1,720,062	11.9	—307,280	1,688,825
Norfolk, Tidewater & Western	April	21	226,693	249,139	48,500	13,215	48,090	111,591	44.8	137,548
Norfolk, Tidewater & Western	April	548	671,860	5,113	740,90	200,797	68,235	22,506	530,001	58.1	381,610	
Norfolk, Tidewater & Western	April	548	2,314,929	17,890	2,590,851	388,621	586,966	90,049	1,720,062	11.9	—307,280	1,688,825
Norfolk, Tidewater & Western	April	120	373,453	10,658	426,424	37,639	34,675	6,598	143,848	55.7	188,743	
Norfolk & Western	April	120	1,449,650	157,859	1,657,433	140,888	139,894	20,335	654,435	61.5	638,659	
Norfolk & Western	April	2,161	12,220,644	910,020	13,634,293	1,447,508	2,547,962	12,390	2,978,665	55.2	6,105,166	
Norfolk & Western	April	2,156	46,141,928	4,297,741	54,037,331	5,811,900	10,314,412	69,666	12,448,884	56.9	23,291,991	
Norfolk Southern	April	727	581,802	26,330	628,485	159,926	81,806	30,459	907,111	72.9	2,030,895	
Norfolk Southern	April	727	2,887,460	65,388	2,956,449	617,184	341,826	12,175	2,087,230	81.4	2,078,152	
Norfolk Southern	April	6,867	8,24,344	1,324,519	11,063,150	2,074,277	3,020,133	1,868,044	15,060,555	81.7	5,941,688	
Norfolk Southern	April	6,867	35,977,572	5,817,184	45,720,518	10,312,721	75,45	15,060,555	35,809,898	80.6	5,941,688	
Norfolk, Tidewater & Western	April	331	400,221	13,879	439,777	162,507	60,508	2,553	174,759	92.9	31,069	
Norfolk, Tidewater & Western	April	331	1,844,513	69,844	2,006,716	161,777	288,766	16,678	700,512	83.2	33,309	
Norfolk, Tidewater & Western	April	132	104,118	227	105,660	21,777	3,203	1,310	55,056	53.1	45,604	
Norfolk, Tidewater & Western	April	132	447,848	1,140	453,905	21,327	48,893	11,385,219	49,871	210,135	81,114	
Norfolk, Tidewater & Western	April	376	4,772,821	8,12,127	13,673,721	1,935,171	2,081,312	3,237	243,780	53.7	210,135	
Norfolk, Tidewater & Western	April	376	17,215,128	1,046,482	18,975,764	3,028,292	3,474,572	323,629	6,925,008	80.6	2,651,038	
Pennsylvania-Reading Seashore Lines	April	10,112	58,381,506	19,914,545	84,671,818	9,410,184	15,666,876	1,031,126	34,620,140	74.6	21,467,273	
Pennsylvania-Reading Seashore Lines	April	10,112	218,113,635	80,455,048	323,844,817	36,727,848	60,501,993	4,060,086	138,466,478	77.7	35,717,174	
Pennsylvania-Reading Seashore Lines	April	1,949	1,915,206	1,20,470	2,323,395	4,910,805	4,37,800	29,086	21,547,876	72.9	7,296,971	
Pennsylvania-Reading Seashore Lines	April	1,949	17,215,128	1,046,482	18,975,764	3,028,292	3,474,572	323,629	6,925,008	70.0	1,022,693	
Pennsylvania-Reading Seashore Lines	April	97	116,678	117,506	35,588	21,284	1,980	32,258	82.3	20,801	
Pennsylvania-Reading Seashore Lines	April	97	463,458	882,130	988,328	1,239,665	1,008,369	7,507	14,279,3	82.4	158,935	
Pennsylvania-Reading Seashore Lines	April	136	679,420	2,753,418	3,559,930	3,988,970	4,32,036	24,610	1,580,343	93.1	2,030,895	
Pennsylvania-Reading Seashore Lines	April	136	2,678,190	2,753,418	3,559,930	3,988,970	98,530	681,854	61.2	1,067,151	
Pittsburgh & Shawmut	April	190	84,305	85,318	20,714	18,824	1,076	39,394	100.1	—83	
Pittsburgh & Shawmut	April	190	385,267	466,461	466,461	94,023	99,495	4,285	182,048	95.7	16,684	
Pittsburgh & Shawmut	April	1,367	8,392,617	6,448,782	8,392,617	1,208,254	1,008,369	86,288	3,396,947	93.1	2,904,980	
Pittsburgh & Shawmut	April	1,367	3,342,782	3,559,930	3,862,883	4,610,578	4,610,578	348,151	13,722,634	71.1	11,150,244	
Pittsburgh & Shawmut	April	407	1,056,897	228,039	1,558,372	268,670	363,494	51,192	905,163	105.8	—90,961	
Pittsburgh, Shawmut & Northern	April	118	1,737,652	1,080,239	3,094,033	277,722	1,322,559	14,987	821,780	50.4	1,535,067	
Pittsburgh, Shawmut & Northern	April	118	4,645	7,187,289	1,670,924	9,624,862	1,265,002	1,707,606	171,104	1,167,614	1,169,453	
Pittsburgh, Shawmut & Northern	April	118	6,466	28,201,148	6,872,811	38,144,536	6,677,056	6,677,056	12,244,735	59.3	12,244,735	
Pittsburgh, Shawmut & Northern	April	118	5,293,248	48,332	53,768	69,226	89,649	1,284	1,284,729	51.6	1,284,729	
Pittsburgh, Shawmut & Northern	April	118	1,063,916	161,666	1,263,385	133,409	129,550	45,073	436,174	61.3	2,609,312	
Pittsburgh, Shawmut & Northern	April	118	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	
Richmond, Fredericksburg & Potomac	April	118	1,737,652	1,080,239	3,094,033	277,722	1,322,559	14,987	821,780	50.4	1,535,067	
Richmond, Fredericksburg & Potomac	April	118	4,645	7,187,289	1,670,924	9,624,862	1,265,002	1,707,606	171,104	1,167,614	1,169,453	
Richmond, Fredericksburg & Potomac	April	118	6,466	28,201,148	6,872,811	38,144,536	6,677,056	6,677,056	12,244,735	59.3	12,244,735	
Richmond, Fredericksburg & Potomac	April	118	5,293,248	48,332	53,768	69,226	89,649	1,284	1,284,729	51.6	1,284,729	
Richmond, Fredericksburg & Potomac	April	118	1,063,916	161,666	1,263,385	133,409	129,550	45,073	436,174	61.3	2,609,312	
Richmond, Fredericksburg & Potomac	April	118	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	
Rutland	April	407	308,708	1,056,897	228,039	1,558,372	268,670	363,494	51,192	905,163	105.8	
Rutland	April	407	308,708	1,056,897	228,039	1,558,372	268,670	363,494	51,192	905,163	105.8	
St. Louis-San Francisco	April	118	1,737,652	1,080,239	3,094,033	277,722	1,322,559	14,987	821,780	50.4	1,535,067	
St. Louis-San Francisco	April	118	4,645	7,187,289	1,670,924	9,624,862	1,265,002	1,707,606	171,104	1,167,614	1,169,453	
St. Louis-San Francisco	April	118	6,466	28,201,148	6,872,811	38,144,536	6,677,056	6,677,056	12,244,735	59.3	12,244,735	
St. Louis-San Francisco	April	118	5,293,248	48,332	53,768	69,226	89,649	1,284	1,284,729	51.6	1,284,729	
St. Louis-San Francisco	April	118	1,063,916	161,666	1,263,385	133,409	129,550	45,073	436,174	61.3	2,609,312	
St. Louis-San Francisco	April	118	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	1,063,916	
St. Louis, San Francisco & Texas	April	118	1,737,652	1,080,239	3,094,033	277,722	1,322,559	14,987	821,780	50.4	1,535,067	
St. Louis, San Francisco & Texas	April	118	4,645	7,187,289	1,670,924	9,624,862	1,265,002	1,707,606	171,104	1,167,614	1,169,453	
St. Louis, San Francisco & Texas	April	118	6,466	28,201,148	6,872,811	38,144,536	6,677,056	6,677,056	12,244,735	59.3	12,244,735	
St. Louis, San Francisco & Texas	April	118	5,293,248	48,332	53,768	69,226	89,649	1,284	1,284,729	51.6	1,284,729	
St. Louis, San Francisco & Texas	April	118	1,063,916	161,666	1,263,385	133,409	129,550	45,0				



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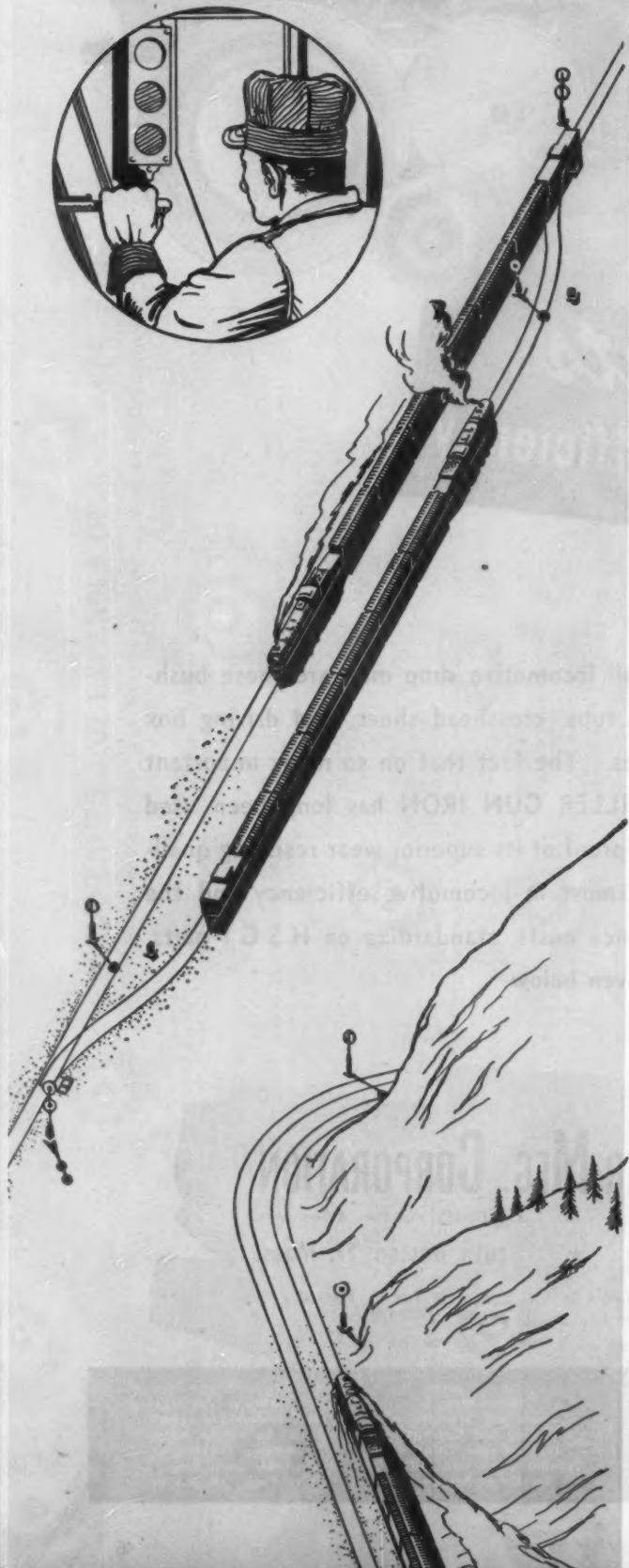
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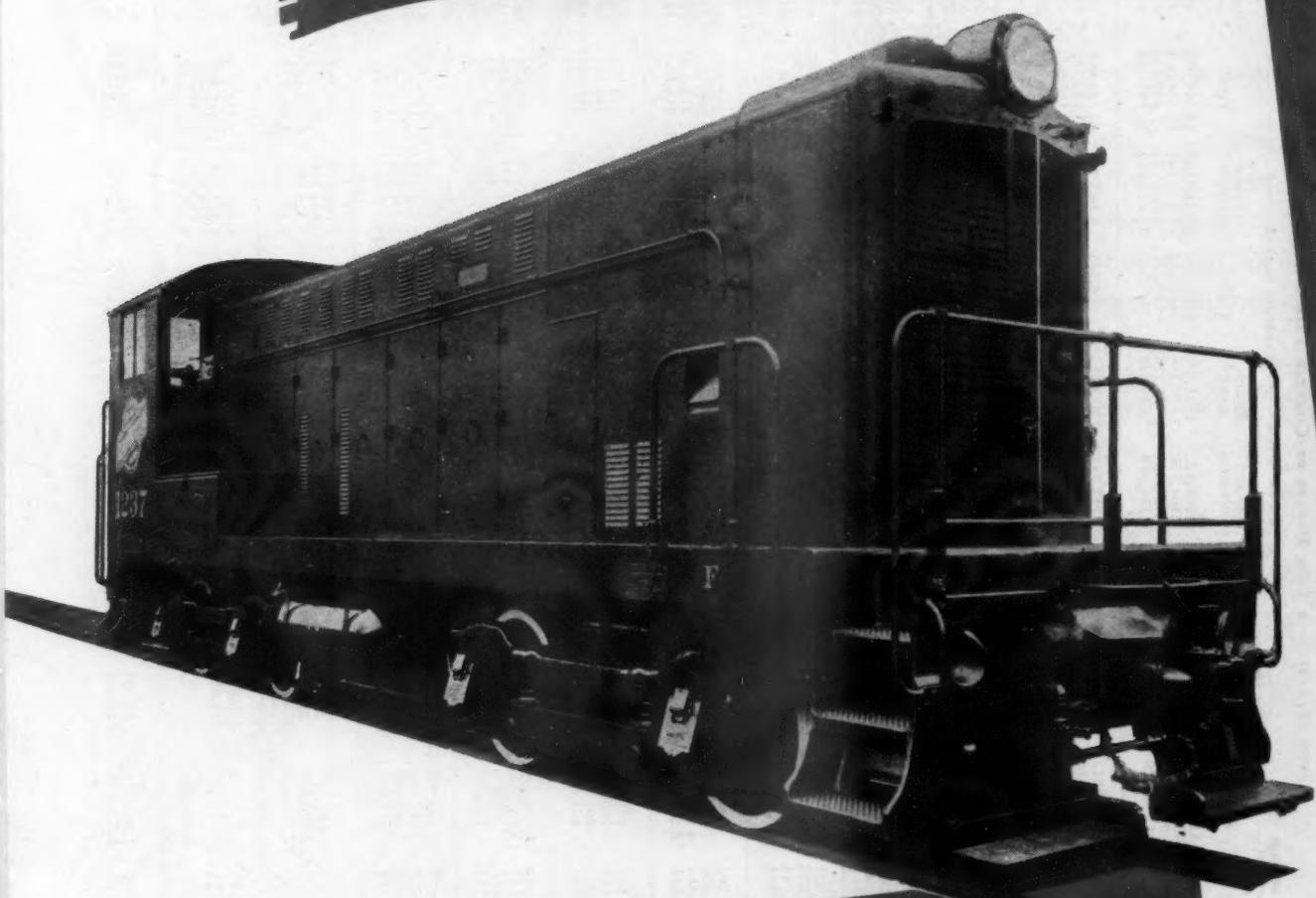
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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1945—CONTINUED

Name of road	Av. mileage operated during period	Operating revenues			Maintenance of equipment			Operating expenses			Operating ratio	Net from railway operation tax accruals	Net railway operating income 1945	
		Freight	Pasenger (inc. misc.)	Total	Way and structures	Traffic	Trans- portation	Total						
St. Louis Southwestern Lines	April 1, 1945 4 mos.	\$5,919,324	\$195,921	\$6,288,581	\$660,427	\$641,496	\$102,524	\$1,449,980	\$2,995,178	47.6	\$3,293,203	\$2,098,099	\$894,107	
Seaboard Air Line	April 1, 1945 4 mos.	23,452,770	1,094,212	24,546,044	2,494,520	2,517,346	417,058	5,558,747	11,438,661	45.3	13,827,383	8,859,285	3,801,102	
Southern Railway	April 1, 1945 4 mos.	1,607	7,921,178	3,032,929	1,686,064	1,877,792	259,171	6,666,613	17,943,501	67.9	3,753,234	1,720,000	1,525,732	
Cincinnati, New Orleans & Texas Pacific	April 1, 1945 4 mos.	6,505	15,962,813	5,075,543	2,303,655	2,712,781	3,689,724	1,612,959	13,483,095	60.5	8,820,560	5,707,040	2,813,097	
Georgia Southern & Florida	April 1, 1945 4 mos.	6,505	64,919,815	20,975,519	91,272,749	10,578,409	14,187,723	1,051,141	25,446,784	59.1	24,633,838	11,290,882	11,048,820	
New Orleans & Northeastern	April 1, 1945 4 mos.	6,505	1,331,671	3,957,716	1,880,050	1,864	320,553	27,286	5,569,920	62.1	3,002,267	1,455,597	1,553,341	
Southern Pacific	April 1, 1945 4 mos.	315	5,329,619	1,827,823	7,689,854	783,772	1,270,050	112,093	2,162,587	60.0	3,074,285	2,167,835	680,582	
Texas & New Orleans	April 1, 1945 4 mos.	337	2,214,440	594,014	2,979,040	330,300	656,724	4,0445	792,279	64.3	1,063,743	799,784	339,870	
Spokane, Portland & Seattle	April 1, 1945 4 mos.	397	1,119,219	2,66,636	2,38,518	62,268	78,466	1,241,940	17,993	3,095,661	2,440,744	3,015,163	1,530,201	
Tennessee Central	April 1, 1945 4 mos.	4,327	204	3,337,198	896,904	4,428,879	1,036,706	1,4920	260,620	596,311	440,395	266,171	91,337	
Texas & Pacific	April 1, 1945 4 mos.	8,247	2,243,107	7,941,344	2,937,430	5,154,964	1,29,309	2,641,946	1,073,777	2,318,709	2,147,370	1,379,667	466,331	
Texas Mexican	April 1, 1945 4 mos.	286	1,185,442	1,201,273	4,32,733	5,892,064	5,713,552	655,567	12,621,162	7,591,559	70.8	2,02,262	1,38,961	2,816,644
Toledo, Peoria & Western	April 1, 1945 4 mos.	1,884	1,853,442	1,203,101	6,445,235	5,98,239	201,592	14,212	11,531,320	11,531,320	14,298,377	12,156,270	12,768,412	
Union Pacific System	April 1, 1945 4 mos.	9,781	31,995,338	1,486,917	1,32,422	21,390	149,733	1,710,614	155,976	2,957,131	6,391,895	50.1	17,03,755	
Utah	April 1, 1945 4 mos.	111	568,748	3,232	1,03,618	245,796	249,016	27,784	488,248	25,38,725	60.1	10,46,711	10,46,711	4,497,946
Virginia	April 1, 1945 4 mos.	657	10,140,885	7,009,861	40,334,333	5,488,415	69,417	1,3734	266,907	82.5	2,563,197	1,117,946	1,483,908	
Western Maryland	April 1, 1945 4 mos.	393	119,161,190	27,342,247	159,441,192	19,79,253	31,40,828	45,177,847	1,090,729	2,318,639	93,015	85,636	190,537	5,874,390
Ann Arbor	April 1, 1945 4 mos.	2,393	7,572,386	750,557	3,175,640	99,896	12,206	26,086	1,602,182	3,716,638	57.7	2,728,397	1,849,406	585,664
Western Pacific	April 1, 1945 4 mos.	840	12,575,737	3,281,174	32,920,842	3,777,184	162,733	101,072	448,178	14,945,725	56.5	7,996,162	2,667,591	2,51,758
Wheeling & Lake Erie	April 1, 1945 4 mos.	507	1,130	1,642,571	508,825	9,130°	529,676	65,715	1,706,706	51,706	57.944	28,179	20,930	2,242,355
Wisconsin Central	April 1, 1945 4 mos.	840	5,821,444	263,369	6,69,931	1,860,094	199,504	271,403	41,328	1,292,671	69.5	1,54,175	1,529,445	443,979

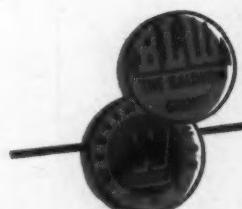
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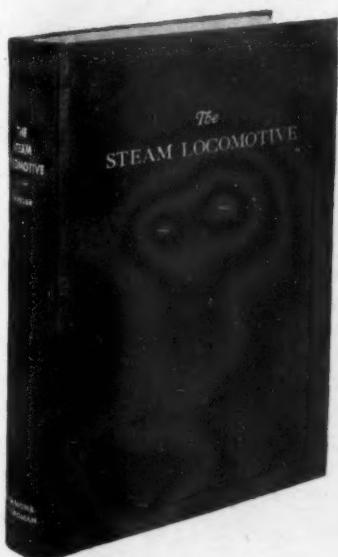
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• Ryerson has the steel you need ready for immediate shipment. Ten convenient Ryerson plants stock more than ten thousand kinds, shapes and sizes of steel and allied products. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City

Principal Products include:

Structures	Strip	Stainless
Stay Bolt Iron	Alloys	Mechanical Tubing
Plates	Cold Finished Steel	Boiler Tubes
Sheets	Tool Steel	Welding Rod

FOR RETURNING VETERANS

★ A warm welcome and a genuine personal interest in his re-employment awaits every qualified former employee who desires to return to Symington-Gould from military service. The Company's Personnel Department makes a study of each veteran's qualifications, after which he is reinstated in accordance with his rights as established by the Selective Training and Service Act. If possible he is placed in a more important position in recognition of new skills acquired while in the Armed Services. Veterans, not previously employed by Symington-Gould, are given special consideration. Every effort is made to place them in positions suitable to their condition and ability.

A PRACTICAL, Active
LABOR POLICY PROMOTES...
Quality of Product...
Dependability of Service...
at SYMINGTON-GOULD

FOR ALL EMPLOYEES...

★ To promote and improve industrial and economic relations between labor and management is one of this Company's foremost aims. To this end the Management of Symington-Gould seeks to provide:

a wage level as high as competitive conditions permit; an opportunity for increased earnings through increased productive effort; adequate machinery for bargaining collectively with representatives of a majority of employees; equal opportunity regardless of race, color or creed; and above all, the opportunity for advancement to those employees who meet high standards of workmanship.

THE SYMINGTON-GOULD CORPORATION

Works: ROCHESTER & DEPEW, NEW YORK

New York • Chicago • St. Louis • Baltimore • Boston • San Francisco • In Canada: ADANAC SUPPLIES, LTD., Montreal, Que.



7300 stops eliminated!



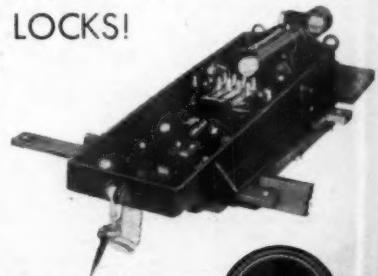
by the application of 9 spring switches
"Type A" each equipped with
FACING POINT LOCKS

The installation of nine spring switches equipped with "TYPE A" FACING POINT LOCKS has enabled one railroad* to eliminate an average of 20 stops per day or approximately 7300 train stops annually and to reduce the average road time of each freight approximately 45 minutes.

Time Table speed restrictions can be eliminated on through main track

moves when spring switches are equipped with facing point locks. For full realization of the maximum operating advantages obtainable with your spring switches, equip them with "TYPE A" FACING POINT LOCKS!

*For name of railroad and complete details write or call our nearest District Office.



GENERAL RAILWAY SIGNAL COMPANY



New York Chicago Rochester 2, N.Y. St. Louis

A-2063